The Arris and Gale Lectures

ON THE

PHYSIOLOGICAL FACTORS INVOLVED IN THE CAUSATION OF DROPSY.

Delivered before the Royal College of Surgeons of England on Feb. 17th, 19th, and 21st, 1896,

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LECTURE II.[1]

THE ABSORPTION OF FLUIDS FROM THE CONNECTIVE TISSUE SPACES.

MR. PRESIDENT AND GENTLEMEN,—We have now to consider the second physiological factor which is involved in the production of dropsy. Two ways of absorption have been generally described—viz., absorption by the lymphatics and absorption by the bloodvessels; and we find that at different periods in the history of the subject each of these has in turn been looked upon as the most important, or even exclusive, channel. There can be no doubt that absorption may take place by both these ways. Since the mechanism of absorption by the lymphatics is the more evident and familiar we may consider this way first.

All parts and organs of the body possess a well-developed system of lymphatics. These channels are in direct communication with the tissue-spaces and can be easily injected from these spaces. They are lined by a layer of endothelial cells, which are continuous except at the very point of junction of the lymphatics with the tissue-spaces. The larger trunks possess also an outer wall of connective tissue in which in some situations we find unstriated muscular fibres. All the lymphatic trunks, with the exception of those draining the upper extremity and right side of the head and neck with the adjacent parts of the thorax, converge to join the thoracic duct, which pours its contents into the blood in the angle between the left jugular and subclavian veins. All the larger lymphatics possess numerous valves so arranged that the lymph can only flow in them towards the thoracic duct. It is evident from these anatomical arrangements that any excess of fluid in the connective tissue spaces will make its way into the lymphatics and so finally attain the blood by way of the thoracic duct. There is one point, however, which I think is not sufficiently appreciated, and that is the importance of muscular movements both for emptying the spaces into the lymphatics and for propelling the lymph onwards through the lymphatics. If we have a manometer in the peripheral end of one of the lymphatics of the leg and inject fluid under pressure into the connective tissue spaces of the foot we find that the manometer in the lymphatic rises extremely slowly, so that the pressure in the spaces may be many times the pressure that obtains in the lymphatic. We have now only to flex the foot on the leg once or twice to immediately send up the pressure in the lymphatic to a height equal to or above that in the connective tissue spaces. Our knowledge of the importance of muscular movement for the normal lymph-flow we owe to the labours of Ludwig and his pupils. In all tendons and aponeuroses we find a double system of lymphatics—a deep system, consisting of vessels running parallel to the tendon-bundles and communicating by cross branches, and a superficial network with polygonal meshes in the peritendinous connective tissue. Both networks are in direct communication and neither of them possess any valves. The superficial network drains into larger lymphatic trunks provided with valves. Each time that the underlying muscle contracts the deeper system is pressed upon and its contents emptied into the superficial system and so into the valved lymphatic trunks. When the muscle relaxes the fluid cannot get back past these valves, so that the two systems of lymphatics are emptied and ready to receive more fluid from the connective tissue spaces. A similar double system was described long ago by Ludwig and Schweigger-Seidel in the central tendon of the diaphragm, and these writers showed how beautiful injections might be made from the peritoneal cavity by injecting Berlin blue into this cavity and then carrying out artificial respiratory movements. As I have mentioned in my last lecture, it is impossible without such aid as muscular movements or passive flexion and extension of the limb to get any lymph-flow at all from a cannula placed in the lymphatics of the leg or arm. It will be evident to you therefore what an imperfect conception of the normal lymph-flow we obtain from a study of the flow in an animal anæsthetised and secured on its back on the operating table, when during normal existence every breath we draw and every movement or twitch of the muscles helps to pump lymph from the extremities into the thoracic duct and so into the blood.

Much more difficulty exists with regard to the absorption of fluid from the connective tissue spaces by the bloodvessels, and this question has been the subject of many investigations. Many years ago Majendie devised a number of ingenious experiments in order to show that poisons introduced into the serous cavities and connective tissue spaces of the limbs were absorbed not by the lymphatics but by the bloodvessels. These researches have been continued and extended of late years by Ascher in the case of the connective tissues of the lower limbs, by Tubby and myself in the case of the pleural and peritoneal cavities. We found, for example, that after injecting methylene blue or indigo carmine into the pleura the dye-stuff appeared in the urine within five minutes, whereas the lymph presented no trace of blue for another twenty minutes or even two hours. It is evident then that in this case the dye must have been taken up by the bloodvessels and not by the lymphatics, and that this vascular absorption takes place with extreme rapidity. In a later series of experiments Leathes has shown that after introduction of various salt solutions into the serous cavities an interchange of constituents takes place directly between the blood and the injected fluid, so that the latter in a very short time becomes isotonic with the blood plasma. Now in this mode of absorption by the bloodvessels the so-called absorption really consists in an interchange between blood and extra-vascular fluids—an interchange apparently dependent entirely upon processes of diffusion between these two fluids. So long as any difference in composition exists between intra- and extra-vascular fluids so long will diffusion-currents be set up tending to equalise this difference. This power of interchange between blood and tissue juices is probably of great importance in the normal metabolism of the tissues. Supposing for example, that a tissue cell is storing up in itself a large amount of calcium or secreting it away from the tissue fluids into the lumen of a gland duct, it is evident that the percentage amount or partial tension of the calcium salts in the fluid surrounding the cell will be diminished. Diffusion currents will therefore be set up, and there will be a flow of calcium from the blood to the lymph until the normal calcium tension is restored. We must conclude, therefore, that for the ordinary metabolic activities of the tissues no lymph-flow at all is necessary, the cell being able to obtain all its diffusible food stuffs from the blood by means of diffusion even through a stationary layer of lymph.

These experiments, however, have no direct bearing upon the absorption of dropsical fluids by the bloodvessels. In the case of dropsical fluids the exudation resembles in all points blood plasma, the only difference between the two consisting in the fact that the dropsical fluid is rather poorer in proteids than the plasma. Here, as we have fluids almost identical on each side of the endothelial wall of the vessels, no conditions are present which would favour the setting up of diffusion currents. As a matter of fact, we may say that diffusion currents bring about an interchange of constituents between the two fluids, but can under no circumstances effect a total absorption of fluid. We have therefore to inquire whether, under any circumstances, an absorption of dropsical fluids or of isotonic salt solutions can be carried out by the bloodvessels. We may arrange the experiments upon this point under three headings.

1. In the first set observations were made on the absorption of isotonic salt solutions and blood serum from the pleural and peritoneal cavities. Orlow, working under Heidenhain's direction, found that such fluids were absorbed rapidly from the peritoneal cavities of living animals, while

[1] Lecture I. was published in THE LANCET of May 9th, 1896.

the lymph-flow from a cannula placed in the thoracic duct showed no (or only slight) increase in no way comparable to the amount of fluid absorbed. He concluded, therefore, that the absorption was affected by the bloodvessels, and was dependent on the vital activity of the cells lining the serous cavities or of the endothelial cells of the capillaries. Leathes and Hamburger confirmed these results, but showed that they could not depend on any vital activity of the endothelial cells, since absorption took place with equal rapidity even when poisonous solutions of sodium fluoride were made use of. The great objection to these experiments is that they do not prove conclusively absorption by the bloodvessels. It is still possible that the fluids had been taken up by the sub-serous lymphatic network and had not reached the thoracic duct during the experiment. This is an objection raised by Cohnstein, who concludes from very similar experiments that these fluids are carried away solely by the lymphatics. It might be thought that this question could be easily decided by observing whether fluids were still taken up from the serous cavities after ligature of both thoracic ducts. I have made a number of experiments of this description, but have failed to get decisive results. It is true that after ligature of both thoracic ducts as well as of the right innominate vein isotonic salt solutions were taken up fairly quickly from the serous cavities. In none of these cases, however, could I be certain that the lymph was absolutely shut off from the blood. As a rule I injected on three succeeding days several hundred c.c. salt solution into the peritoneal cavity, the last injection containing carmine granules in suspension. On killing the dog two days after the last injection the peritoneal cavity was generally found to be empty, and carmine granules could be traced along the glands of the anterior mediastinum, showing that, in spite of the ligature of both thoracic ducts, there had been a passage of lymph upwards and through the chest. We must, therefore, look to other methods to decide this question.

2. There are a whole series of experiments made by other observers which to my mind prove conclusively the power of the bloodvessels to take up fluid from the tissue spaces. If an animal be bled several times it will be found that the blood obtained in the later bleedings is more watery than that obtained at the beginning of the experiment. Now this diminution of total solids in the blood seems to be due chiefly to a dilution of the serum; the serum contains less solids than before and is increased in volume relatively to the blood corpuscles. I may here quote some observations which show this point.

Dog, 11·4 kilos. Solids of serum = 7·72 per cent. Dog then bled to 220 c.cm. Thirty minutes later solids of serum = 7·14 per cent.

In another experiment the solids of the serum were at first 6·98 per cent.; after bleeding to 200 c.cm. = 6·57 per cent.; after further bleeding to 100 c.cm. = 6·37 per cent.

In a smaller dog (6·5 kilos.) withdrawal of 150 c.cm. blood reduced the solids of the serum from 7·77 per cent. to 6·47 per cent.

It must be noticed that this attempt to regulate the amount of the circulating blood by bringing it up to its normal volume is carried out with great rapidity, so that even while we are bleeding an animal we find that the later portions of blood are more dilute than the earlier portions. That the fluid which is added to the blood in these cases is derived from the tissue spaces is shown by Barlow's experiments. Now this dilution of the blood takes place even when the thoracic duct is tied or when the lymph is conducted away by placing a cannula in the duct, so that it cannot be due, as was formerly thought, to an increased lymph-flow into the blood.

3. In order to be absolutely certain of the power of the bloodvessels to take up isotonic solutions and dropsical fluids from the tissue spaces I have carried out a series of experiments in which I led defibriated blood through the bloodvessels of amputated limbs. In each case I had a double set of transfusion apparatus and sent one-half of the blood many times through a limb which had been rendered dropsical by the injection of isotonic salt solution, while at the same time fluid was flowing at the same pressure through the other limb, which was not dropsical, and thus served as a control. In each case the blood was analysed and its hæmoglobin estimated before the experiment and from both limbs after the experiment. It was invariably found that, whereas the blood which had passed from twelve to twenty-five times through the sound limb had become rather more concentrated, the blood which had passed through the œdematous limb had taken up fluid from this limb. I may here quote one of these experiments as an example:—

—	Total solids.	Percentage of HbO_2.
1. Blood before experiment	21·2%	100
2. After twenty passages through normal leg ...	21·4%	103
3. After twenty passages through œdematous leg	20·5%	96·5

We must conclude, then, that isotonic salt solutions and dropsical fluids may be taken up by the blood circulating through the capillaries and that this process may occur fairly rapidly. In the last lecture we saw how any excess of intra-capillary pressure, such as accompanies plethora, causes an increased transudation from the capillaries, so that the volume of circulating fluid is diminished. Now we see that, on any diminution of capillary pressure taking place, as after bleeding, the fluid in the tissue spaces goes back into the vessels to make up for the volume of circulating fluid lost. This wonderful balance between capillary pressure and lymph production or absorption is, I think, well illustrated by Lazarus Barlow's observations. While not agreeing with my views on lymph-production, this observer has shown that the slight plethora produced by wrapping up the limb in Esmarch's bandage causes an appreciable increase in the transudation in other parts of the body, so that the specific gravity of the tissues of the upper limb, for instance, falls, while the specific gravity of the blood rises. The reverse is the case when circulation is restored to a limb which has been kept anæmic for an hour or two. Here there is considerable hyperæmia of the affected limb produced, and corresponding anæmia of other parts of the body. We find then that absorption as well as transudation through the capillary wall is determined by the intra-capillary pressure. When the pressure rises transudation is increased, when the pressure falls absorption is increased. We have seen that the dependence of transudation on capillary pressure is susceptible of a fairly simple mechanical explanation (filtration hypothesis). We have now to discuss the mechanism of the absorption process.

Is absorption effected by the active intervention of the endothelial cells or are there physical factors at work which will serve to explain it? An explanation of absorption which will strike anyone who investigates this problem is the possibility that absorption may take place in the same manner as lymph production—i.e., by a process analogous to filtration. From the work of Ludwig and Noll we know that the pressure in the lymphatics is extremely low; but the experiments I mentioned earlier in this lecture show that there may be a considerable pressure in the tissue-spaces without communicating itself to the fluid-filling lymphatics. Landerer, who has written a whole book on the subject of tissue tension, places the pressure in these spaces at a high level, from one half to three-quarters of the capillary pressure. It is evident that if this were the case and the capillary pressure suddenly sank 50 per cent. the pressure in the extra-vascular spaces would be higher than that in the capillaries and a backward filtration of lymph might occur. A series of mechanical experiments by Klemensiewicz would seem at first sight, however, to show that such a backward filtration is impossible. Klemensiewicz points out that if fluid be passing at a given pressure through a permeable tube contained within a rigid tube transudation will occur until the pressure of the transuded fluid is equal to that of the fluid flowing through. At a certain point in the experiment the pressure of the transuded fluid will exceed the pressure at the outflow end of the tube. The tube will collapse and the flow through it be stopped. He imagines that the same sequence of events occurs in the living body in the presence of a considerable transudation. Arteries, capillaries, and veins are bathed in the transuded fluid. The fluid transuded from the capillaries will, if a free outflow for it be absent, after a time attain a pressure near that ruling in the capillaries and higher than that of the venous pressure. The veins will therefore collapse, venous obstruction will be produced, and the capillary pressure and transudation will be higher than ever, so that we have a vicious circle of events tending continually to increase the œdema of that part. Now, Klemensiewicz's objections are true only under one condition—i.e., that the venous tubes should run

freely through the lymphatic spaces of the tissues. If, however, we consider a system in which the inner tube is connected at various points in its circumference to the outer tube by strands of inextensible fibres, it is apparent that a rise of pressure in the space surrounding the inner tube will only serve to extend this tube still further. No collapse will take place, but a back filtration will be possible. Now, if we cut sections of injected connective tissues we find that the capillaries are bound to surrounding parts by radiating fibres which might possibly prevent their collapse under high extravascular pressure. In the larger veins, on the other hand, the arrangement of the fibres of the adventitia is circular and not radial, so that a high extra-vascular pressure would apparently cause collapse of the veins. From these anatomical facts one would conclude that a backward filtration is possible provided that the extravascular pressure be raised only in the region of the capillaries. If, however, the pressure be freely propagated through the tissues so as to affect the larger veins draining them we shall have collapse of the veins and increased œdema. Here, as in so many other cases, we cannot get a decisive answer to our physiological questions by purely anatomical investigation, but must have recourse to physiological experiment.

The question that we have immediately to decide is whether an increased tissue tension augments or leaves unaltered the flow of blood through the tissues or whether it causes venous collapse and so diminishes the flow. In the former case a back filtration would be possible and in the latter case impossible. I have investigated this point in various regions of the body, the connective tissues of the leg, the tongue as a type of muscular tissue, and the submaxillary gland as a type of glandular tissue. In all these cases I have found that a rise of tissue tension above the pressure in the veins causes collapse of these veins, a rise of capillary pressure, and a diminished flow of blood through the part. In these regions of the body, therefore, absorption of lymph by a backward filtration is impossible.

Hamburger, finding that serum and isotonic fluids are absorbed from the peritoneal cavities that had been dead some hours, concludes that the life of the endothelial cells can have nothing to do with the process and ascribes the absorption to processes of capillary and molecular imbibition, so that the absorption of fluids would be analogous to the taking up of fluids and gases by animal charcoal. Though these factors probably coöperate to a certain extent in the distribution of the fluid through the tissues surrounding the serous cavities, it is evident that they would be much more pronounced in dying and disintegrating tissues, and could with difficulty explain the taking up of fluids by the bloodvessels. They would certainly not explain the wonderful balance which exists between the intracapillary pressure and the amount of fluid transuded from or absorbed by the bloodvessels. What, then, is the explanation of this absorption? The explanation is, I believe, to be found in a property on which much stress was laid by the older physiologists and which they termed the high endosmotic equivalent of albumin. It must be remembered that the older physiologists used animal membranes in their experiments on osmotic interchanges. These membranes permit the passage of water and salts but hinder the passage of coagulable proteid. The application of semi-permeable membranes to the measurement of osmotic pressures showed that the osmotic pressures of salts and other crystalloids are enormously higher than those of colloids such as albumin, and it has therefore been supposed that the osmotic pressure of the proteids in the serum being so insignificant must be of no account in physiological processes. The reverse is, however, the case. Whereas the enormous pressures of the salts and crystalloids in the various fluids of the body are of very little importance for most physiological functions, the comparatively insignificant osmotic pressure of the albumins is of great importance and for this reason. It has been shown that bodies in solution behave in most respects like gases. Now there can be no difference in pressure between two gases in a vessel which have no partition between them or only divided by a screen freely permeable to both gases. In the same way if we have two solutions of crystallised substances separated by a membrane which offers free passage to the water and the salts on either side there can be no enduring difference of the osmotic pressure on the two sides, especially if a free agitation of the fluids on both sides is kept up. The pressures on the two sides will be speedily equalised, and then any flow of fluid from one side to the other will cease. Now the capillaries in the living body represent such a membrane. Leathes has shown that within 5 minutes after the injection of sugar or salt into the bloodvessels the osmotic pressures of the blood and lymph have become equal. Supposing, however, that we have on one side of this membrane a substance to which the membrane is impermeable, this substance will exert an osmotic pressure and will attract water from the other side of the membrane with a force proportional to its osmotic pressure. This attraction of fluid must go on until all the fluid has passed through the membrane to the side where the indiffusible substance is.

Now the capillaries of the body are almost impermeable to proteids. In consequence of this impermeability the fluid which is transuded from the capillaries under pressure contains very little proteid. From what I have just said it follows that the proteid left in solution within the capillaries must exert a certain osmotic attraction on the salt solution outside the capillaries. It is easy to measure the value of this attractive force. If we place blood-serum in a small thistle funnel over the open end of which is stretched a layer of peritoneal membrane soaked in gelatin, and immerse the inverted funnel into salt solution which is isotonic or even hypertonic as compared with the serum, within the next two days fluid will pass into the funnel and will rise in its stem to a considerable height. I have found that the osmotic pressure of the non-diffusible portions of blood-serum measured in this way amounts to 40 mm. Hg. Now you will see at once the importance of this fact. Although the osmotic pressure of albumin is so insignificant, it possesses an order of magnitude comparable to that of the capillary pressures, and whereas capillary pressure determines transudation the osmotic pressure of the proteids of the serum determines absorption. Moreover, the osmotic attraction of the serum for the extravascular fluid will be proportional to the force expended in the production of this extravascular fluid, so that at any given time there must be a balance between the hydrostatic pressure of the blood in the capillaries and the osmotic attraction of the blood for the surrounding fluids. With increased capillary pressure we shall have increased transudation until we get equilibrium established at a somewhat higher point, when there is a more dilute fluid in the tissue spaces, and therefore a higher absorbing force to balance the increased capillary pressure. With diminished capillary pressure there will be an osmotic absorption of salt solution from the extravascular fluid until this becomes richer in proteids, and the difference between its osmotic pressure and that of the intravascular plasma is equal to the diminished capillary pressure.

Here, then, we have the balance of forces necessary to explain the accurate regulation of the quantity of circulating blood, according to the conditions under which the animal may be placed, and it seems unnecessary to invoke the aid of vital activity to explain the process. Certain corollaries of this mode of explanation agree well with observed facts of experiment. Thus, the more impermeable the capillary the smaller will be the amount of proteid exuded with the lymph. A higher capillary pressure will therefore be needed in its production and there will be an equally high force tending to its reabsorption. A rise of capillary pressure will only increase the amount of lymph in the extravascular spaces to a certain extent, but will at the same time cause this lymph to be more dilute, so that there will be a corresponding rise in the force tending towards absorption. In consequence of this sequence of events considerable alterations of capillary pressure may be produced in impermeable capillaries, such as those in the limbs, without causing any appreciable increase in the lymph-overflow from the limbs. On the other hand, where the capillaries are very permeable very little pressure will be required to cause a transudation, since no work is done in the concentration of a proteid solution, and we find, as a matter of fact, that capillaries where the pressure is lowest—i.e., in the liver—are also those which are the most permeable. Here, moreover, the absorbing force will be insignificant, since there is very little difference in the percentage of albumin between liver blood and liver lymph.

This osmotic difference between blood plasma and tissue fluid will not serve to explain the absorption of proteids by the bloodvessels and would certainly not explain the absorption of serum from the serous cavities. It is difficult, however, if not impossible, to prove that serum or proteid is absorbed by the bloodvessels. In some of my transfusion experiments I

have rendered a limb œdematous by means of serum, and in these cases have obtained no evidence at all of absorption by the blood-vessels. There is no doubt that serum may be absorbed from the pleural and peritoneal cavities, but the absorption of these fluids is very much slower than the absorption of salt solutions, and is in fact so slow that the whole of it can in most cases be effected by the lymphatic channels. A slow absorption of serum from tissue spaces by means of the blood-vessels is also physically possible. As the cells of the tissues feed on the proteids of the fluid the serum will tend to become weaker and weaker, so that the watery and saline constituents corresponding to the proteid used up can then be absorbed by the blood-vessels in the way I have indicated.

The physical process which I have described above as causing the absorption of lymph by the blood-vessels must be in action at all times in the body and must, therefore, be a predominant factor in the process of absorption. I have not been able to absolutely exclude the absorption of proteids by the blood-vessels, but, in the absence of direct experimental evidence that such an absorption does occur, the physical factors I have described in this lecture suffice to explain the phenomena of absorption observed both under normal and under pathological conditions.

An Address
ON
THE CAUSE OF MALARIA.

Delivered at the Grant Medical College, Bombay, on April 4th, 1896,

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GENTLEMEN,—The subject of malarious fever is one which belongs more properly to the physician than to the surgeon, but everyone in India, whether he practises medicine or surgery, is constantly called upon to deal with malaria and its effects. Moreover, it is notorious that for more than a year the whole of the medical profession in India has been smarting under a series of insults and slurs, which I shall take this opportunity of showing are wholly unmerited, that have been cast upon us by the *British Medical Journal*. This journal has been conducting a campaign on its own account against the sanitary services in India in which the microscopic "parasite" of malaria has so far been its biggest gun. Statements have appeared from time to time that the "parasite of malaria is the greatest discovery in pathology." "If there is one thing certain in pathology it is that a living parasite is present and can be invariably found in malarial blood." "It is by far the most important of the animal parasites affecting man." "Eyes sharp and trained as those of Virchow and Frerichs completely failed to recognise it lying patent under their very noses." "The investigation of these bodies is the principal business and main duty of the Indian physician." "It has been entirely, or almost entirely, neglected by the profession in India." Men who write of Laveran's bodies as "pets," "beasts," "brutes," or (save the mark!) "bugs" have been extolled in the *British Medical Journal* as scientists in terms of the highest praise, while senior men of the calibre of J. M. Cuningham, Bryden, Rice, Marston, D. D. Cunningham, Crombie, Sanders, and a host of others, whose names alone call up feelings of respect and admiration throughout the length and breadth of this land, have been as freely reprobated. In short, a reign of terror has been established which must soon make it impossible for the profession to hear more than one side of any of the great medical questions of the day. The journal has gloried in "bombshells" and "hard-hitting" apparently unmindful of the fact that two can employ these offensive weapons. It is just possible, though highly improbable, that the designation of the present honoured head of our service as "Surgeon-Major Cleghorne" is a printer's error, but it is quite impossible that anyone in Calcutta or in India could have written of the "Offices of the Indian Government Council." There are no such offices. If the cause of malarious fever is—as the *British Medical Journal* asserts it is—an animal parasite living in the blood, even then our profession in India does not deserve the hard things that have been said about it in view of the many members of the profession whose work and writings stamp them as ardent searchers after truth on plasmodist lines; but if, on the other hand, malarious fever is not due to a parasite in the blood, *a fortiori* if it is not primarily a blood disease, the *British Medical Journal* stands discredited in its self imposed task of regenerating the medical services of this country, and we may reasonably demand to be left alone and to be allowed to manage our own affairs, sanitary or otherwise, in future.

[Surgeon-Lieutenant-Colonel Lawrie here exhibited a patient from Hyderabad suffering from enlargement of the spleen and malarious fever.]

The patient was admitted into the Afzul Gunj Hospital on Feb. 1st, 1896. Four months before admission he had fever daily, sometimes with and sometimes without ague; after twenty days he took quinine and recovered; six weeks later the fever returned, and he has had it off and on ever since. At times it is regular quotidian and at others it is irregular and of no pronounced type. Since he has been in hospital he has had fever for forty-two days out of fifty. Between Feb. 1st and 15th the fever gradually decreased from 105° to 99° F., with four complete intermissions. For the next nine days it did not go above 99°. On Feb. 25th it came on again with ague and has continued up to date. The spleen is tender and enlarged and can be felt below the left costal arch. His temperature has been taken every hour in the rectum: his blood has been examined every day under the microscope, and he has had no quinine. The point to which I desire to call attention is the condition of the patient's blood. Laveran's bodies have been found at every microscopic examination, and the black line on the temperature chart indicates very roughly the proportion of these bodies found daily. At a glance it can be seen that their number does not bear any constant relation to the temperature. It must be clearly understood that by Laveran's bodies are meant all those genuine abnormal cells found in the blood in cases of fever produced by malaria, and not such cells as are depicted in the pictures of THE LANCET and the *British Medical Journal* of Feb. 15th, 1896. These are not correct representations of Laveran's bodies. Some of them appear to be drawn from the imagination; others, especially the rosette forms, are caricatures of vacuoles and crenating or disintegrating blood cells. [Surgeon-Lieutenant-Colonel Lawrie here exhibited an enlargement of the drawings which had been made by one of his students, and compared them with the drawings from life of Laveran's bodies.]

In the pictures from THE LANCET and the *British Medical Journal* the representations of the three different varieties of "parasite," the quotidian, tertian, and quartan, of the first part of the first day are all exactly alike. The pictures of the "parasites" of the second part of the first day and of the second, third, and fourth days might be anything. Most probably they are crenating red cells. It is not stated whether the drawings of the "parasites" of the second, third, and fourth days are intended to represent one and the same body in different phases of its existence, or whether they are pictures of bodies seen at different times and assumed to be one body in different stages. Whatever they are, with one exception none of them are correct representations of Laveran's bodies any more than the picture I now show you of the man with his arms and legs extended is. This is taken from Marchiafava's book, Plate 2, Fig. 6, and it discredits the whole of the drawings in that work. No one who has studied Laveran's bodies could pretend for a moment that they ever take such a form as this. The only drawing in THE LANCET and the *British Medical Journal* series which is really at all like a Laveran's body is the crescent in line B, and even in this the granules are depicted in the wrong place. They are never situated as they are in this drawing, on one side of the cell only. All the drawings in THE LANCET and *British Medical Journal* are stated to be copies from the plates in Marchiafava's and Mannaberg's book, and I am not aware that Marchiafava or Mannaberg or Golgi ("the talented Italian" of that devoted worshipper of parasites and foreigners, Dr. Patrick Manson), or Bignami, or Celli, or Gassi, or Felletti, or any of the Italian observers have any claim to confidence which can weigh for a moment against the established claims of the great and immortal

Virchow and Frerichs, who failed to discover the parasite in malarial blood, or that they have any claim at all except that which is founded on their description and pictures of bogus parasites of malaria.

It is not surprising that the theories of malarious fevers founded on the assumption that Laveran's bodies are animal parasites living in the blood are fantastic and fine-spun. Everything, the very nomenclature of malarious fever, has been disturbed and recast by the clinical plasmodists in order to meet the new pathology, "The Scientific Medicine" of the *British Medical Journal*, based upon a parasite of malaria, distorted and multiplied according to the exuberance of the successful observer's fancy. The fever produced by malaria is assumed to be due to: (*a*) the act of sporulation of Laveran's bodies at intervals which are stated to correspond precisely with the periodicity of the fever; or (*b*) to a poison given off by Laveran's bodies at the time of sporulation. No evidence has been adduced in support of the theory that Laveran's bodies sporulate, or if they do that the act of sporulation is periodic, or that it is accompanied by the emission of any poison. The periodicity of the fevers of malaria has been conveniently assumed to bear an intimate relation to the supposititious act of sporulation, and obvious inconsistencies have been got rid of by the introduction of such terms as "mixed infection," where two or three generations of parasites are presumed to be at work in the blood together, or "pernicious infection," in which the parasite is so deadly that it kills the patient before it has time to sporulate or to do anything else but capture and penetrate the red cell. The old term "quotidian," which still, I hope, conveys an intelligible and practical meaning to everyone, has been given a new interpretation, so that it no longer signifies an intermittent but a continued fever.

The anæmia of malarious fever is considered by the clinical plasmodists to be due to the destruction of the red cells by Laveran's bodies, which devour them or eat them up, or in some other plausible way demolish them. The excrementitious products of the parasites in the blood and the corpses of those that die there in harness are further assumed by the plasmodist to be got rid of by the phagocytosis of the white blood-cells or of the macrophages—the large nucleated cells of the spleen—or by the phagocytosis of the endothelial cells of the bone marrow and of the cerebral blood-vessels. Lastly, all this microscopic mass of excrement and of Laveran's defunct bodies has to be got rid of; and it is assumed, in a most amusing way, that the phagocytes and macrophages throw it out in the spleen, which must be, according to the plasmodists, a mere dust-hole, where it accumulates until it gives rise to the enlargement of that organ characteristic of malaria. For scientific medicine the chapter on Phagocytosis in Mannaberg is one of the most amusing in the book. It ends with a hint that the usefulness of the macrophages is at times marred to some extent because they occasionally over-eat themselves so tremendously that they burst and let all the spores they have devoured loose again before they have had time to digest them. Time compels me to pass on; I must therefore leave the picture of the disappointed macrophage, all his obliging endeavours to benefit the patient rendered nugatory by his own amiable and well-intended greediness.

The bodies we have found in this patient's blood consist of: (*a*) intracorpuscular cells containing dark pigment-like granules; (*b*) extracorpuscular cells also containing darkly pigmented granules, sometimes "swarming" and occasionally developing ciliary or flagellated pseudopods (flagella); (*c*) free granules, occasionally "swarming"; and (*d*) semilunar or spindle-shaped bodies called crescents. These bodies are different or varying phases of one and the same cell. The intracorpuscular body or cell becomes the extracorpuscular body by bursting through or incorporating with itself the envelope of the parent cell. The crescent, the movement called "swarming," and the development of flagella are readily accounted for without the necessity of regarding Laveran's bodies as parasites in the blood. Before proceeding to consider in detail the exact nature of Laveran's bodies and in order to facilitate the study of their meaning it is necessary to dwell for a moment on facts which are known and which I have observed with regard to the physiology of the blood. It is because these facts have been lost sight of or disregarded that the parasite theory of malarial fever has flourished to the almost inconceivable extent it has. The physiological and biological statements I am about to make are gathered principally from Lister, Pettigrew, Landois and Stirling, and Drummond, supplemented by observations we have made in Hyderabad. If these observations are occasionally strongly stated it is because I wish to emphasise the lines on which I consider investigation should proceed in future and not because I wish to force other people to accept them. Healthy blood contains two kinds of cells, the red and the white. The red cells convey gases to and fro between the lungs and the tissues. Their functions are urgent and all-important and admit of no interruption or relaxation. Hence, among other marvellous qualities, they possess an elasticity which is absolutely perfect; nothing stops their career, and they dash through the narrowest channels, round the sharpest corners, and past obstacles of any and every kind without the smallest check or hindrance. The mobility, energy, and outward activity of the red cell give it the stamp of what Drummond calls "maleness"; it is an organism principally concerned with nutrition. The white cells are very different from the red. When fully developed they appear to me to be filled with granules which are minute living protoplasmic cells, and many of them contain large clear spaces, hitherto regarded as nuclei, which must, in my opinion, either be fertilising or nutrient areas; most likely they hold reserves of protoplasm. I throw it out as a hint to the profession that they supply the blood and all the tissues each with the particular kind of protoplasm and young protoplasmic cells suitable for its own special requirements. They incorporate in their own being the two main activities of all living things, nutrition and reproduction, and their internal activity or passivity and the fact that they teem with young cells and granules indicate that they are the female, in the sense of being the maternal, cells of the blood. The white cells are never in a hurry like the red; they loiter about in the capillary system and stick to the walls of vessels and pass through them, shedding their contents either in the blood or in the tissues. The white cells have special movements of their own, which consist of varied activities of their protoplasm. These cause the cell itself to change its shape and position, and they produce intracellular movements of the granular contents which are seen sometimes moving slowly and at others actively "swarming" with the identical movement described by Laveran in connexion with his malaria bodies as that of the "disturbance of boiling water." The white cells of the blood further have the power of throwing out pseudopods, processes which, if threadlike or filamentous, are called cilia or flagella, and these protoplasmic offshoots can be detached and lead for a time an independent existence. The ordinary forces of the circulation—the heart and the elasticity of the vessels—are not sufficient to account for the whole of the movement of the blood in the capillaries, and it seems, therefore, highly probable that both the intracellular circulation called "swarming" and the evolution of "pseudopods," which is a primitive force of the circulation, are what Pettigrew long ago described as those occult forces which regularly assist in the peculiar circulation of the blood-cells and of the blood-plasms in the capillary system.

A most important point bearing on the origin of Laveran's bodies is the source from which the blood-cells are derived. They are largely manufactured or elaborated in the spleen or liver. In man the red cell is not nucleated, but in the human embryo it is nucleated, and it is also nucleated in the frog, and in the frog the nucleus is clearly the intracorpuscular stage of the white cell. Fig. 1 shows a red and a white cell of frog's blood copied from Landois and Stirling's book, and it is evident that the white cell is identical with the nucleus of the red. I was led to make an examination of the blood of the frog by an accident. In accordance with letter No. 3278 from the Government of India Foreign Department to the Resident at Hyderabad, covering a paper by Dr. Patrick Manson on the Nature and Significance of the Crescentic and Flagellated Organisms in Malarial Blood, the medical officers serving under the orders of the Resident at Hyderabad were directed to make observations on the "organisms of malaria," and were specially enjoined to pay particular attention to the life history of the "parasite." At the time this letter was received in my office we had been working for several months at the microscopic appearances of the blood in malaria, and it appeared to me that before Laveran's bodies could be properly assumed to be parasites they must be shown to have an independent existence outside the human body, and that a likely *habitat* for them if they had such an existence would be the body or the blood of frogs, frogs being known to flourish where

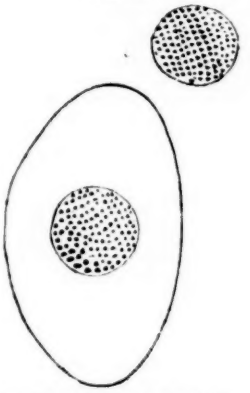
malaria abounds. The examination of the blood and of the liver and spleen of frogs was undertaken while the animals were alive (anæsthetised). In the blood and in the free protoplasm of the liver and spleen we discovered, to our astonishment, not Laveran's bodies, but their perfect and complete analogues. In the liver and spleen of frogs were found small protoplasmic cells and granules identical with those contained in the white blood-cells in man, "swarming" with the same movement of boiling water which Laveran had discovered in his organisms and which we had discovered in the leucocyte. We also found blood-cells in every stage of development, and the white cell could be traced from its origin as an intracorpuscular body, when it sometimes becomes the nucleus of the red cell and at others becomes a free and independent leucocyte, until it changes into an extra-corpuscular body by bursting through and incorporating with itself the red cell. The white cell in the frog has to serve the purpose of nutrition of a simple, slow, cold-blooded amphibious animal and the processes of its development are correspondingly simple and easy to follow. In man the blood cells are unquestionably formed on the same lines as those of the frog, but the nutritive processes are so complex and the difficulties of examining the blood glands during life are so insuperable that it is correspondingly difficult to follow the stages of the developmental processes. It is a curious fact, however, that wherever difficulty arises in tracing out the analogy between the two assistance is afforded by Laveran's bodies. Lastly, the "swarming" movement of the protoplasm and of the young protoplasmic cells in the spleen of the frog indicates that there is a double circulation in that organ and very probably in the liver also. This view receives confirmation from the discovery of Roy, extended by Schäfer and Moore, of the rhythmic contractility of the spleen. I mention this here because the double circulation in the spleen may turn out to have an interest bearing on the diurnal variations of the temperature in health as well as on the periodicity of malarious fever when those variations are exaggerated.

In the light of the above physiological facts we are in a position to consider the actual value of the characteristic features of Laveran's bodies which have been made the foundation for the belief that they are parasites living in the blood. 1. They are intracorpuscular in one stage of their existence. But the white cells of the frog's blood, which are the analogue of the human white blood cell, are at one period of their existence intracorpuscular bodies and no one would dream of calling them parasites. 2. Laveran's bodies are at another stage of their life extracorpuscular. So are the white cells of the blood. 3. The free body changes its shape and becomes oval or crescent-shaped (Fig. 6). The crescent is supposed to be a parasite and to "devour" the red blood cells. There is nothing remarkable about the change of shape of the crescent. All cells which contain granules tend to become spindle-shaped when the granules collect in the centre of the cell and round again when they spread out to the margin, and the red blood cell of the frog in which the granules of the nucleus are collected in a compact mass in the centre is itself spindle-shaped. The resemblance between the red blood cell of the frog and the crescent is so marked, especially when the latter is changing its shape, that it cannot be accidental. The true semilunar shape which the crescent assumes is certainly very curious and interesting, but it only takes this shape when the granules are collected quite in the centre, and the cell is consequently very markedly spindle-shaped, as a mechanical result of the force of the blood current. If you apply the methylene blue stain to a preparation of fresh blood, first to one side of the cover-slip and then to the other, so as to create currents in opposite directions, you can make the crescent semilunar in either direction in which the ends are wafted by the current created by the stain. 4. The granules in Laveran's bodies occasionally undergo a "swarming" movement which Laveran compared to "the disturbances of boiling water." The same movement was discovered by us in the normal human leucocyte and it can readily be produced artificially. The importance of this "swarming" movement cannot be over-estimated (Figs. 2, 4, 5, 7, 8, and 9). From the moment when we found swarming in the leucocyte it became clear that Laveran's bodies and the white cells are closely allied and that one is no more likely to be a parasite than the other. "Swarming" is confessedly one of the most characteristic attributes of Laveran's bodies; it is a sign of life. The "swarming" movement, therefore—the "boiling water movement" of Laveran—on which the plasmodists rely most confidently for the identification of Laveran's bodies as parasites, if it is conclusive evidence of anything, is merely evidence that they are related to the white cell. The proof is clinched by the discovery of the same swarming movement in the normal protoplasmic cells and granules in the liver and spleen of frogs. The same thing may be said with regard to the development of cilia or flagella in connexion with Laveran's bodies. In view of the elementary truth that ciliary and flagellate varieties of pseudopods are known to be present and to constitute normal forces in the circulation in plants and animals, there does not appear to be any reason why they should be described as signs of parasite life only when they occur in connexion with Laveran's bodies in the fever blood of malaria.

We now see that none of the qualities of Laveran's bodies warrant the assumption that they are parasites; on the contrary, they have their complete analogues in the cells of the blood both of man and of animals; moreover, they are not present in the blood in a considerable proportion of cases of malarious fever of the most fatal and chronic types. They cannot, therefore, be the cause of the fever. If Laveran's bodies were the cause of the fever in malaria the plasmodists would surely have been able before now to isolate them in pure culture and to demonstrate their existence outside the human body. Dr. Patrick Manson states that "the intravenous injection of blood containing this parasite into a healthy individual is followed by the multiplication of the parasite in the blood of the person inoculated, and also by the occurrence of the characteristic fever." There can be no justification for employing intravenous injections of malarial blood in the human subject, but during our investigation we did employ them repeatedly in dogs and in monkeys. When they produced any effect at all it was to give rise to a sharp attack of fever which passed off on the same day, and was not accompanied by the formation, much less by the multiplication, of Laveran's bodies in the blood. According to my experience, which is, however, confined to cholera cases, the intravenous injections of healthy blood or of saline fluid produce similar effects in man. They give rise to ague and fevers, but the symptoms so produced by the saline fluid are most assuredly not malarial. From an examination of a very large number of spleens and livers of frogs, which are always healthy, we have come to the conclusion that frogs are immune against malaria. We therefore fed one of our fever patients for several days on the spleens and livers of frogs and gave him daily subcutaneous injections of frog's serum. This treatment had no effect in arresting the attacks of fever, as it might have been expected to have had if the cause of the disease had been (*a*) a parasite in the blood against which the frog is immune, or (*b*) a defect in the spleen of the same nature as those defects of the thyroid gland which produce diseases which can be remedied by thyroid feeding.

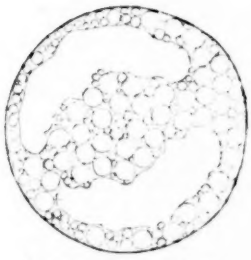
Enough has been said to show that Laveran's bodies are not animal parasites living in the blood. We have dealt with three forms of blood cells: (*a*) those of the frog, in which development is slow and easy to follow; (*b*) those of the healthy human subject, in which development is so rapid that it is difficult to trace except in the way of analogy with the frog; and (*c*) those of the malarious human subject Laveran's bodies which are diseased or degenerate, but in which the development is not so rapid as in the healthy human blood cells, and in which the analogy to normal human blood cells on the one hand, and to frog's blood cells on the other, can be traced without difficulty. A study of Laveran's bodies renders many points in the physiology of the blood clear and distinct. Thus their intracorpuscular stage indicates that the human white blood cell begins life as an intracorpuscular body. The extracorpuscular stage is synonymous with the free and independent existence of the leucocyte. The crescents indicate the spindle shape of the red cells, which is normal in the frog and other lower animals, and the swarming movement and the development of ciliary or flagellate pseudopods afford strong presumptive evidence that the circulatory forces, which are recognised conditions of the circulation in animals and plants, are regularly at work in the capillary system of man. It only remains to state or reaffirm the source of origin of Laveran's bodies and to consider the theories of malarious fever based upon it to the extent to which it is warranted by actual facts. The spleen is undoubtedly the organ mainly concerned in the production or elaboration of the white blood cells, though other blood

FIG. 1.



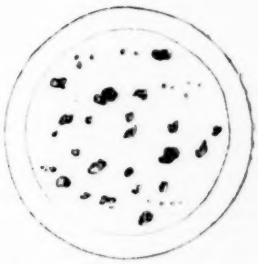
Red and white blood cells of frog (from Landois and Stirling's "Physiology").

FIG. 2.



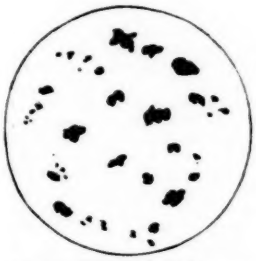
Leucocyte of human blood (diagram).

FIG. 3.



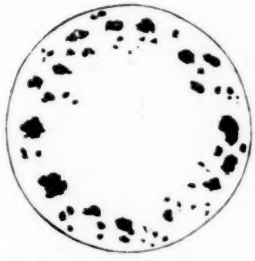
Intracorpuscular body of Laveran (drawn from life).

FIG. 4.



Extracorpuscular body of Laveran; the pigment-like granules are spread about (drawn from life).

FIG. 5.

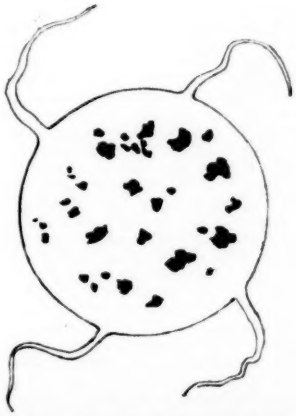


Extracorpuscular body of Laveran; the pigment-like bodies are spread out to the edge of the cell (drawn from life).

FIG. 6.

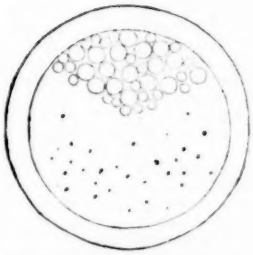
Extracorpuscular body of Laveran: the Crescent. This cell is spindle-shaped because the granules are collected in the centre (drawn from life).

FIG. 7.



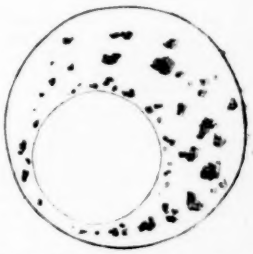
Extracorpuscular body of Laveran, flagellated (drawn from diagram).

FIG. 8.



Cell partially diseased (drawn from life).

FIG. 9.



Cell partially diseased (drawn from life).

Explanatory note on the figures of blood cells and of Laveran's bodies.—The term "Laveran's bodies" has been employed for convenience without reference to the school which claims to have discovered them. The striking points in the above groups of blood cells are: (*a*) the resemblance between the white cell and the nucleus of the red cell of the frog's blood; (*b*) the resemblance between the red blood cell of the frog and the crescent; (*c*) "swarming" was seen in Figs. 2, 4, 5, 7, 8, and 9; and (*d*) in Figs. 8 and 9 the cells are only partially diseased—in Fig. 8 the cell contained a number of healthy protoplasmic cellules, such as are seen in the healthy leucocyte, along with the usual black pigment-like granules which are met with in Laveran's bodies; and in Fig. 9 the cell contains a clear nuclear space like the nuclear spaces in the leucocyte.

glands may assist in the process. We have just seen that the analogy between Laveran's bodies and human blood-cells as well as those of the frog which are manufactured in the liver and spleen is close and absolute, and in the third place the spleen is invariably diseased in malarious poisoning. From the three facts it is evident that the Laveran's bodies are merely the kind of degenerate blood cells which are turned out by the spleen when it is dragged down from its high pinnacle of evolution by malaria. (Figs. 8 and 9.) The precise manner in which malaria acts upon the spleen can only be determined by future observation. All we know at present is that in certain localities and climates which we call malarious enlargement of the spleen with fever and anæmia is endemic, just as we know that in other localities and climates enlargement of the thyroid gland with bronchocele and various constitutional symptoms, and in others again stone in the bladder, are endemic. Our theory of malarial fever, then, is that it is produced by the action of malaria on the spleen and that the production of Laveran's bodies, which are not found in anything like all cases of malarial fever, is one of the effects of the distempered condition of the spleen of splenitis. Several facts point irresistibly to this conclusion; for instance, congestion of the spleen, characterised by enlargement or tenderness, or both, is the most constant of all the symptoms of malarious poisoning. Secondly, it is the sign on which reliance may most safely be placed in making the diagnosis of the malarial origin of fever, and if it is not present it is generally well to consider the advisability of excluding malaria as the cause. In the third place the only drug which can be trusted to cure enlargement of the spleen from malaria and the fever which springs from it is quinine, and it restores equally those cases in which Laveran's bodies are and those in which they are not found in the blood. Lastly, when Laveran's bodies are present they attest in terms which are unmistakable that the spleen is the organ primarily affected by malaria. The first effect of malaria on the spleen is to disorder its functions, and the patient gets fever, sometimes markedly periodic and sometimes not. It must not be forgotten that the temperature of the blood in health shows regular diurnal variations between 97° and 99° F., which depend to a large extent upon the periodic nocturnal inactivity and the diurnal activity of the spleen. The periodic attacks of fever are amply accounted for by the view that they are exaggerations of the diurnal activity of the spleen. The disturbance of its functions may cause the diurnal variations to be exaggerated daily, quotidian ague, or every alternate day, tertian ague, or every third day, quartan ague. As the disorder of the spleen increases its functions of regulating the diurnal variations of temperature become less clearly pronounced, they are, as it were, lost in the disease, and as a consequence the attacks of fever seldom maintain periodic regularity for any length of time and they become irregular. If the irritation of the spleen is very great, or if it is accompanied by derangement of important organs like the brain, the liver, the stomach, or the bowels, the fever may be irregular or continuous from the onset. As the disease progresses the spleen is no longer able to elaborate its full complement of perfect white cells. It manufactures a certain number of imperfectly developed or abnormal cells, which pass into the blood, and these are Laveran's bodies. The symptoms produced by the presence of these bodies in the blood are easy to understand: they are symptoms of disordered nutrition. Instead of receiving their normal supply of life-giving white cells all the tissues of the body get a proportion of Laveran's barren, innutritious, and not unfrequently lifeless organisms. It is not surprising that a patient who has malarial fever is generally pale and has headache or perhaps severe cerebral symptoms, with indigestion, constipation, and derangement of the liver, or that he feels very ill and becomes thin; the nutrition of every tissue and organ in the body suffers. Finally, when the enlargement of the spleen becomes, as we say, chronic, its functions as a blood-forming organ are entirely in abeyance; even the degenerate cells of Laveran are no longer produced, and the anæmia becomes permanent and profound.

Such is a brief outline of our theory of the action of malaria. We claim for it that it confirms the principles on which our predecessors, who were by no means the ignoramuses they have been made out to be, practised successfully in India. It explains as no other theory will the phenomena associated with acute and chronic malarious fever, and it suggests a long vista of possibilities as regards the action of the spleen and the reaction of the tissues on the blood in such conditions as inflammation, gangrene, septicæmia, leucocythæmia, and anæmia generally. Moreover, it is the only theory which accounts satisfactorily for the action of quinine in enlargement of the spleen and malarious fever. Quinine acts directly as a specific on the diseased spleen and through it on the white cells of the blood, and this teaches us not only its effect in curing malaria, but also its unique action as a tonic and its prophylactic action against cholera and other infectious diseases when they are epidemic.

THE EVOLUTION OF THE SURGICAL TREATMENT OF THE BROAD LIGAMENT PEDICLE.

BY LAWSON TAIT, F.R.C.S. ENG.

A VOLUME which I published in 1891 was devoted mainly to the establishment of severe operative procedures for the relief of diseases of the pelvis and abdomen, especially in women. It dealt chiefly with the leading features of these proceedings in the direction of reducing their primary mortality and establishing them on the basis of giving a reasonable return for the risks run. This in every instance has now been fully accomplished, and if I had confined myself to such themes in my first volume my second would have been ready long ago; but the appearance of the first effort towards the latter has been delayed till to-day, for I have found so much to reconsider in the second division of my task that I have had to decide to wait over and over again till the effort seemed to me to be hopeless, and I felt at last that I should leave it to other hands to accomplish. In the intervening six years the field of surgical literature has been flooded with contributions to abdominal surgery, some good, a few very good, very many indifferent, and the great bulk hardly worth notice. I have waited to see if anyone would take up what seems to me to be the logical method of advance, but I have found none; and the effort which I now begin to-day to produce my second volume and to indicate the lines on which I have improved and still hope to improve the secondary results of our operations may turn out to be a failure as great as any which I have just deprecated. If, however, it have anything like the success which my first volume has met with I shall be pleased indeed, and, in my own opinion, the second will greatly transcend the first alike in interest and importance.

As the whole history of abdominal surgery, in the slow and tardy evolution of its first stages, turned on the treatment of the broad ligament pedicle, so my first efforts in the secondary evolution necessarily start at the same point, and it is, to say the least of it, disappointing to me to see how little the importance of this subject has taken hold of the men who have written most fluently on abdominal surgery and who have brought out the most popular text-books. Mr. Greig Smith's book, for instance, will to its ordinary reader seem sufficiently imbued with my own teachings, yet he says concerning the treatment of the pedicle: "It has always seemed to me that this *quæstio vexata* of ovariotomy has been unduly magnified in its importance. To a surgeon accustomed to deal with amputated limbs the pedicle is comparatively a small matter." If this is the view generally of surgeons accustomed to deal with amputated limbs I hope fervently that no one in whom I have any personal interest will ever fall into their hands for the treatment of an ovarian tumour. Coming from the pen of a man like Mr. Greig Smith it can only mean that while he has written freely and with confidence he has not seen enough ovariotomies to know how wholly different these pedicles can be, and that his comparison of them with the symmetrical and constant incidents of amputated limbs is the most perfect nonsense. Similarly, the experience of one or two cases where chronically over-distended bladders had been tapped for ovarian cysts, or even attempts made to remove them by abdominal sections, will some day cause him to repent bitterly of the following sentences: "I think that the advantages of catheterism before operation are somewhat exaggerated. I am convinced that it is unnecessary and I have never done it." From

these illustrations I am persuaded that the creation of abdominal surgery into a special branch of surgery was a wise movement, on the same ground that the development of ophthalmic surgery has upset the advice we used to find in a few chapters on diseases of the eye—oddly enough, placed at the end of text-books on practice of medicine—that in all cases of strabismus the muscles supposed to be at fault were to be freely divided. It may be useful on one other point to continue my criticism of Mr. Greig Smith's text-book, and that is his expression of opinion that "the operation of Houston of Glasgow (1701) was almost certainly not a complete ovariotomy." But apart from the very conclusive fact that the patient lived afterwards in perfect health for thirteen years—not known in my own experience of incomplete ovariotomies—Mr. Greig Smith only lays himself open again to a charge of defective experience. I could not understand why Houston should describe his proceedings with such photographic fidelity of detail and say nothing about his treatment of the pedicle, and I assumed that he must have divided and tied it and forgotten to mention the fact. I did not attach sufficient importance to the fact that Houston had met with one of those singular eccentricities of ovarian growth with which my own long list is interspersed with a goodly number, and it was not till I began to dig them out and carefully investigate their details that I saw the probability of Houston's description being perfect even in the absence of allusion to the pedicle and its treatment. The clue is in his words: "I took a strong fir splinter, such as the poor in that country use to burn instead of candles; I wrapped about the end of this splinter some loose lint and thrust it into the wound, and by turning and turning and winding it I drew out about two yards in length of a substance thicker than any jelly, or rather like glue fresh made and hung out to dry; its breadth was about ten inches. This was followed by ..... several large pieces of membrane which seemed to be parts of the distended ovary. I then squeezed out all I could and stitched up the wound," &c.

When I got a group of my own cases together it was easy to see that Houston's belonged to them, and that they form a group by themselves, having peculiarities of their own, not the least curious of which is the fact that they probably present the examples which occur beyond all doubt of ovarian tumours undergoing spontaneous cure—examples, however, so rare that they may be certainly disregarded in any discussion of treatment. These cases have all the same character, and no description can be better than that of Houston's own experience. The cyst-walls are always thin, and so far as my memory and my notes serve me the tumours are sessile. In three well-marked and entirely similar cases the cyst-walls had given way and the gluey contents were diffused throughout the abdomen. The cyst-walls, or rather their remains, were isolated by washing out and were then found to be mere shreds, patches and strings of membrane with attached masses of cystic proliferation, by which only their inner surfaces could be recognised. These shreds and patches were quite rotten and came away from their very vague attachment in the pelvis on slight touch, and no ligatures were necessary. In all three drainage-tubes were left in at the close of the operation, and large quantities of the gluey material, more or less in solution, were discharged for some days. My belief is that in none of these three cases was the operation really necessary. Had I left them alone the gluey material would have been slowly absorbed and the shreds and patches would have contracted and disappeared unless they had developed malignant tendencies, and there is a suspicion that this did happen afterwards in one of my cases. This is a secondary termination from the risk of which no ovariotomy is free. These three cases are, therefore, precisely on a level with Houston's, only that I did a little more scientifically and with better tools what he did as effectively with a bit of stick. What is the explanation of them? That question I can only answer by speculation. True pedicle they have none, and it seems to me as if, and at a certain point, the cyst contents have a digestive power over the cyst walls, and that in time the peritoneal surfaces digest the cyst contents. It may be that when we come to the base of the tumour and pull away the rotten remains we complete the process by a rough enucleation, but I cannot really say I saw the base of attachment of these three tumours, and Houston did not see his, therefore he said nothing about it; but I saw mine with the eyes of the blind, and only at my next experience will my eyes be open enough to get a true record of the state of matters. Meantime I have said of Houston that the earliest known treatment of the ovarian pedicle was probably enucleation. Houston's operation makes a most interesting and picturesque addition to the early history of abdominal surgery, but it has no value at all, although it was published in the stately Transactions of the Royal Society of London, which were read then as now with avidity all over the world. He found no imitators. The first really deliberate and systematic attempt to do serious operations for abdominal disease was that of Ephraim McDowell. McDowell's method of dealing with the pedicle was what he had learned from John Bell in Edinburgh, and which was applied to all arteries and to everything containing an artery down to my own time—the long ligature. In a stump the arteries were tied with a hempen ligature, one end was cut short and the other left long, the series to decorate the suppurating stump for many days, the amusement of the house surgeon and the terror of the patient being their removal by tugging as soon as they would come. Often they never came. How it did not strike someone to try how they would do if both ends were cut short I cannot imagine. But the difficulty set Simpson's ingenious mind to work with his visionary acupressure, and he unconsciously cleared out the long ligature. How the short ligature came into use in general surgery I do not know. In ovariotomy it appeared early in the history, but most unfortunately only for a short time.

In 1822 Nathan Smith of New Haven, Connecticut, did his first case with the short ligature, dropping the pedicle in, and he followed this by a series of cases so successful that it must ever be the amazement of future historians of surgery how his example was not at once followed. His lesson was far more valuable than McDowell's and his action more philosophical, for he argued out the necessity for the short ligature, and he used animal ligatures (pieces of kid glove), in the belief that they would be absorbed—a conclusion most abundantly proved to be correct. His lessons were neglected, for his statements were widely published here, yet the long ligature held sway till the advent of Baker Brown in 1851. He in turn introduced the treatment of the pedicle by the cautery, gaining his idea doubtless from veterinary surgery. A most unfortunate incident occurred soon after this by the invention and introduction of the clamp treatment of the broad ligament pedicle—an incident, according to his own authority, to be laid at the door of Mr. Jonathan Hutchinson. The short ligament was reintroduced and reinstalled almost simultaneously in 1878 by Bantock and myself and has since remained the only method of dealing with the broad ligament pedicle except the cautery and clamp used by Keith to the last. Up to that time we were all astray except Keith, as we used Hutchinson's clamp with varying mortalities, running between the dreadful limits of 25 per cent. and 50 per cent.; Keith alone adhering to Baker Brown's method brought down his mortality and swept the world with his brilliant success. Very soon, however, Keith's record was beaten by the ligature and then it became manifest that the main principle to be followed for success was that of the intraperitoneal replacement of the divided and secured pedicle, and that there was little to choose, so far as promising results were concerned, between the cautery and the short silk ligature. As I watched Keith operate in 1880–81 I became convinced that the cautery was the ideal method of pedicle treatment, but for the tremendous time it occupied and the large amount of physical exertion involved. Keith and I agreed to stick each to his method and after a long series of cases to compare results. But Keith ceased to publish under conditions which made comparison possible and the contrast has never been made. I do not, however, think any other conclusions than those I have indicated could ever have been derived. I have, however, been haunted ever since by the clear, thin line of parchment to which Keith reduced his pedicles, and I have looked at my own, often regretting the dead lump of wet and decomposable tissue I had to leave, girt by a dead and decomposable ligature. But still it is certain that the great bulk of these difficulties were successfully encountered by that wonderful power which living tissue has for removing dead matter, a power for which so many theories have been advanced of late years without leading us much beyond the facts.

I have not yet seen a case in which post-mortem examination made it evident that death was due to the ligature, though I have seen several—some amongst my own cases, I regret to say—where faulty application of the ligature has been the cause of death. If the ligature is so applied that

it controls hæmorrhage completely the ligature does not contribute in any way, so far as I know, directly or indirectly, to death. But it has a most unfortunate way of contributing to secondary failure, to incomplete cure, and to persistent and vexatious interference with convalescence. The first of the instances of this kind as being never fatal, but as being the more common and more alarming of the two to be mentioned, is the occurrence of broad ligament hæmatocele. Speaking to Keith about this his answers impressed me with the belief that the accident did not occur in his practice, and he was far too shrewd and anxious an observer to miss it if it had occurred frequently. The users of the clamp certainly did not place its occurrence on record; but with a mortality of 25 per cent. raging round them it is not likely that they would observe it if it did occur; and where it occurred I think death must have been inevitable. I cannot imagine any more certainly fatal combination than a broad ligament hæmatocele and a stinking stump. But still the question stares us in the face, Does the ligature cause or facilitate the occurrence of broad ligament effusion? I confess I strongly suspect that it does, and this is one of the reasons of my present paper. The second incident which tells against the ligature is the occurrence of a number of cases, 3 or 4 per cent., in which the garrotted stump and ligature get the better apparently of the living tissue around them, prevent the tissues absorbing them, cause suppuration, form sinuses which do not heal, but go on discharging till the knot of thread is got rid of, months, it may be years, after the original operation. Sometimes they burrow into sinuses of the broad ligament and are discharged into the rectum and bladder. Quite a group of these latter cases has now occurred where I have removed knots of thread from the bladder contained within a thick deposit of phosphates, some of the ligatures having been originally placed by myself and some by others. How these ligatures travel in this way is a matter of easy explanation, and that is, I think, as follows. Suppose the ligature is placed on the right pedicle it will go (as a matter of fact, three of my own have so travelled) into the bladder, whilst if it be a left broad ligament pedicle to which the ligature has been applied it will more likely get into the rectum. In fact, as I have often had occasion to observe in operating for pelvic abscesses, the bladder seems the road out of the right broad ligament, and unquestionably the rectum is the point of election for the natural evacuation of the left parametric cavity.

The method of inclusion of the ligature is curious and interesting, for it seems difficult to imagine at first sight that a ligature tied inside the peritoneum would, as a matter of course under certain conditions, work its way through that membrane and into an extra-peritoneal district. It happens thus. The ligature (Fig. I., *d*) is tethered to the floor of the pelvis by the vessels and nerves it embraces. The peritoneum (*a*) is raised up and round it and finally over it by the effusion of blood, until a tube of inverted peritoneum (*c*) is made with the ligature at the base (Figs. II. and III.). The mouth of this inverted tube is closed by adhesion at its intra-peritoneal end and opened at the ligature end by the subsequent suppuration, and the loosened ligature drops into the increasing and purulent cavity of the broad ligament (Fig. IV., *b*). Its subsequent journey is a matter of notoriety and of long and protracted suffering for the patient. I could, unfortunately, point to a number of my patients who have been for months and even years undergoing this torture from what I call "a dead ligature." I have made various attempts to relieve them, some I am glad to say successfully, and others I regret to say with failure. But they will get well in time, and none, so far as I know, have died in the process. But for these two reasons I want to get away from the ligature if I can, and after years of experimenting and thought I think I have at last succeeded. But the difficulties have been so great that I have not yet ventured to apply my plan to a living subject. Fortunately, however, for my consistency dead animal tissue is helping me thoroughly, and experiments on animals are unnecessary—for this purpose at least. My constant feeling has been that in the cautery we should find the solution of the difficulty, and it really shows how careful we ought to be in all our experiments in surgery, that it was not till after at least two years' consideration of the subject that it dawned on me that we did not understand how the cautery really works. I do not think that either Baker Brown or Keith understood how they arrived at their certain and magnificent results. I am sure the bystanders did not. Everyone whom I have asked questions has answered: "Oh, yes, sear the stump; barbarous practice, going back to the days before Ambrose Paré." But Keith did not sear the stump. It is true he burnt a piece of it off after securing it with Baker Brown's clamp, and if searing had been the means of his success he would have stopped there. But he went on for about twenty minutes or half an hour rubbing the clamp with his cautery and clearing it with a towel or sponge until the onlookers got weary of the proceeding and thought Keith was finical. What he had done was really this—and I found it out only after much experimenting—that he had seized a transverse strip of the pedicle between the iron blades of his clamp, screwed the blades up tight, and then heated his blades up to cooking point—that is, practically between 180° and 190° F.—and carefully maintained that temperature till the enclosed strip of pedicle was cooked dry into a strip like parchment. Now Keith either did not understand what he was doing, but acted merely by rule of thumb, or he kept his real reason for using the cautery a profound secret. Had he seared the tissue the probability is that either hæmorrhage would have occurred soon after the patient recovered from shock or that the burnt mass would have caused pelvic suppuration—it would not have been absorbed. Having satisfied myself of the validity of this exclusion I set to work to contrive a better method of arriving at the same results, and after many failures I have found it in the method of cooking by electricity. Knowing the resistance of a certain piece of platinum wire I embedded it in a box of silver and isolated it by means of plaster-of-Paris, kaolin, or pipe-

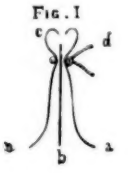


FIG. I.

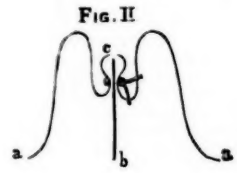


FIG. II.

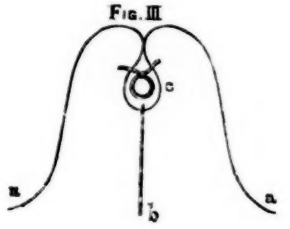


FIG. III.

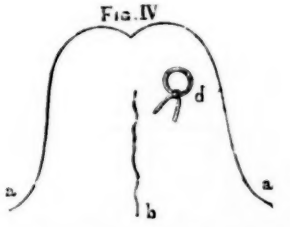


FIG. IV.

clay. Two such boxes are placed face to face and connected by the necessary binding screws. The boxes are placed opposite each other on a pedicle and are screwed together. An electric current of known strength and under the control of a rheostat or a Kelvin's balance is now turned on to heat the boxes, or, better still, the boxes are heated first and then applied to the pedicle, as this method saves time. The boxes are enclosed in ivory or other bad conductor of heat, to save alike the heat and the tissues for which the heat is not wanted, though this precaution may be dispensed with. The apparatus I now describe will so cook an ordinary pedicle that hæmorrhage will be impossible and suppuration unlikely in the extremest degree in a space of about six to eight minutes. The contrivances shown are rough, but they

are in process of amendment, and the same principle is being applied to instruments for the arrest of visceral oozing and for parietal and omental hæmorrhage and for the simplification of the operation of total removal of the uterus. Also for operating on hæmorrhoids. I do not advocate my proposals as likely to reduce the primary mortality of operations, I believe that has been done so far as may humanly be possible. But I am quite sure that they or some others on similar lines will go far to secure our secondary results being more satisfactory and encouraging alike to our patients, ourselves, and to the art of surgery. I have no doubt the new electric hæmostat will find many fields of usefulness in general surgery.

The Crescent, Birmingham.

PERINEAL PRESSURE IN CYCLING.[1]

BY ARTHUR CHARLES ROPER, F.R.C.S. EDIN., M.R.C.S. ENG.,

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FOR the whole of last summer and for an uncertain number of antecedent cycling seasons I have noticed that when riding a cycle any considerable distance, and especially when riding at a good pace, I have found it necessary to dismount and urinate every hour or oftener, and this was obviously not on account of any increase in the amount of urine excreted. When doing this I have found the penis to be cold and shrunken and the scrotum in a similar condition. The return to a normal condition was often accompanied by considerable aching. There was usually a very slight difficulty in passing urine and a difficulty in getting rid of the last few drops, so that if one was unhappily hurried or disturbed in the final stage of this somewhat commonplace operation a familiar and uncomfortable trickle down the left thigh marked the fact that one was in a more or less senile condition. Another thing which I noticed or subsequently called to mind was that I had to micturate oftener than usual at night. I mean that, my usual habit being to empty my bladder before getting into bed and having no further occasion to pass urine before morning, I found that after riding I had to get up once or perhaps twice for this purpose. Many cyclists have complained to me of the foregoing symptoms and I am inclined to regard them as danger signals which should be regarded lest, as in my case, worse befall. In the beginning of last September I took a ride of about thirty miles and had to travel over some very rough roads. First came the frequent micturition trouble, followed by dull aching over the pubes, and by the time I reached home I was in a state of considerable discomfort and had much difficulty in passing urine and pain in the act. A hot bath relieved the retention, but I had to use a morphia suppository to cure the pain, and I was soon forced to the unpleasant diagnosis of cystitis, which I could not and cannot doubt was traumatic in its origin and was probably started by bruising and constant jarring of the bulbous portion of the urethra. To cut a long story short I had a most uncomfortable two months of it. The pain was at times so bad that I had to lie on my bed for an hour or two. I had the greatest difficulty in so arranging my work as to be certain of passing a public urinal every three-quarters of an hour or getting to a patient's house where I could lose myself in the w.c. on my way to or from the bedroom (it was astonishing to me to discover how closely those places are watched; I had never suspected it before); and as to medicines, boracic acid, salol, and benzoate of soda were worse than useless; citrate of potash with hyoscyamus and buchu were useful as palliatives, though uncertain; belladonna suppositories afforded by far the best relief from the strangury, but were of no use unless pushed to absolute dryness of the Schneiderian membrane; and the drug which cured me was arsenic, which my friend Mr. Bruce Clarke prescribed for me about the middle of November, though it was not until about Christmas that I ceased to find the call to micturate very urgent, albeit not unduly frequent. I found on three or four occasions when I was very bad that thoroughly washing out the bladder with hot water and boro-glyceride gave me a day's relief, but my urethra was so tender in front of the triangular ligament that I avoided that as far as possible, only doing it when my urine was alkaline and the mucus unusually abundant.

In order to show the mode of origin of these troubles I will first briefly refer to the anatomy of the perineum. It is a rough triangle, or, as anatomists prefer to call it, a lozenge-shaped space, bounded behind by the coccyx, the edges of the glutei muscles and sacro-sciatic ligament, and at the sides and apex by the pubic arch and symphysis. In the middle line from behind forwards are the rectum and the urethra with its bulb. On either side are the ischio-rectal fossæ, containing the nerves and bloodvessels which are distributed to the rectum and overlying skin, and which run forward to supply the penile and urethral muscles, and are finally distributed to the integument of the penis, scrotum, and perineum. The floor of the perineum is formed anteriorly of the unyielding triangular ligament, which is pierced by the urethra at its posterior part and nearer to the symphysis pubis by the dorsal vein and dorsal arteries and nerves. After the bulb it is with the nerves that we are most concerned, and they are—(1) the inferior pudendal, from the small sciatic, which pierces the fascia lata, curves forward and, running along the ramus of the pubis, is distributed to the skin of the scrotum; (2) the anterior and posterior superficial perineal from the pudic; (3) the muscular branches of the pudic to the transversus perinei, the accelerator urinæ, erector penis, and compressor urethræ muscles; and (4) the dorsal nerve of the penis, the terminal branch of the pudic, which perforates the triangular ligament behind the crus of the penis. We have then between the skin and the bone the inferior pudendal nerve, and between the skin and triangular ligament the bulb, urethra, and superficial perineal nerves, and the accelerator urinæ and erector penis muscles with their nerves. Obviously, then, anything which can exercise pressure between the sides of the pubic arch must compress these structures more or less against the bone and the unyielding triangular ligament, thus accounting by pressure on the sensory nerves of the part and on the motor nerves which supply the muscles of the urethra for the shrivelling and aching of the penis and inability to completely empty the urethra after micturating.

And now let us look at an ordinary bicycle saddle. Could anything be more deftly contrived to exercise this pressure? What is it but a modified wedge which becomes more and more operative as it is softened and stretched by use? Stretched by use! And when it is so stretched, is the modification in its shape a betterment or the reverse? The answer is unhesitatingly to be given, worse, far worse, for then we ride upon what is more or less of a strap, which shapes itself with painful accuracy to the perineal curve, while the concave form which it takes renders it practically impossible to sit back upon it and get good bearings for the ischial tuberosities. Let us for a moment turn our attention to its construction. It is mounted on a spring of some kind or other, or it is merely put on the machine without a spring, the resiliency of the pneumatic tyre sufficing for some riders. It is fixed at the peak only in front and behind by its whole posterior border to a steel plate called the cantle. It is unlike the equestrian saddle in not being supported in its whole length by a plate, technically the "tree." Its ground plan is roughly that of an isosceles triangle suspended between the apex and the base, a bridge, nay, a veritable "pons asinorum," and one that may claim to rival the "pons" invented by that terror of my youth, Euclid, in the amount of discomfort which it has caused.

Now, of course, the parts of our body which are specially adapted for sitting are the tuberosities of the ischium with their surrounding cushions of muscle and fat. It is, however, the bony parts which are intended to carry the weight, and it certainly is not intended that our ischio-rectal fossæ and the delicate structures of the perineum should carry the weight of the body upon a jarring or bumpy road. The transverse diameter of the outlet of the pelvis—i.e., the distance between the ischial tuberosities—is four inches, and at least one inch and a half must be added to this on either side if we are to derive the full benefit from our natural padding, and since we should not find it comfortable to sit on the steel base of our triangle we should have, if we use a suspension saddle, at least seven inches of suspended leather behind upon which to sit, exclusive of the steel cantle. But even supposing that we have a new saddle upon which we

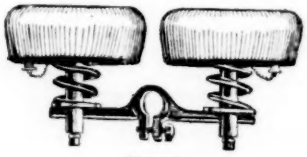
[1] A paper read before the Devon and Exeter Medico-Chirurgical Society, Feb. 21st, 1896.

can sit comfortably upright with our tuberosities properly supported, what happens as soon as we begin to drive our machine? Our thigh straightens, our hamstring muscles contract and harden, &c., the edge of the saddle acting as a fulcrum, we are levered forwards until we come to that part of the saddle where no leverage obtains, which amounts to the same thing as that part of the saddle where our tuberosities have no firm bearing. This can be discovered in a moment if you will sit on a table and straighten your thighs. The action lifts you off the table. Thus, then, you are lifted on to the narrow part of the saddle and your body weight is transferred from the back to the peak of the saddle, from your tuberosities to your perineum and ischio-rectal fossa. But this is not the only source of pressure. Men, at any rate when they ride against a wind or up a hill, lean forward in order to present a less opposing surface to the wind or to throw their weight and centre of gravity directly over the pedals, and in this position of leaning forward bring much more pressure to bear upon their soft parts in front. To escape the former difficulty—i.e., the levering of the body forward by the act of pedalling—you may slightly tilt the peak of the saddle upwards, say 5° from the horizontal, and this will keep you fairly in your seat back upon the saddle, but it brings the peak up against the perineum, and when you lean forward you are worse off for apposition of the peak to the perineum than you were with the saddle in the horizontal. Many are the inventions which have been patented in view of this difficulty. A patent agent informed me a short time since that the patents handed in at the Patent Office for bicycle saddles only amount to fifty yearly, and a cycle accessory dealer wrote to me a few days ago saying that he has sixty or seventy saddles illustrated in his list for this season. But they may be divided for our purpose into two classes—saddles and seats; and I propose to go into this question, which appears to bear more upon cycling than surgery, because it is necessary that we should be able to advise our patients upon this subject, and to advise them well we must understand the subject thoroughly.

The first cycle was the hobby-horse, which might be described as a bone-shaker, without pedals, the feet being used as propellers on either side—punting on a bicycle. Obviously the position of the rider must have been hanging over a something which did duty for a saddle by his fork or perineum, and not sitting on his tuberosities. I should imagine that perineal pressure had a good deal to do with bringing this into disrepute. After a long hiatus which was partially occupied by the four-wheeled velocipede came the bone-shaker propelled by pedals on the axle of the front wheel where the saddle was retained, and as cycling has never since ceased the descent of the saddle may be thus briefly traced. Doubtless it was found to be more convenient than the seat of the velocipede, and in my opinion as a practical cyclist it undoubtedly is the best, and until something better and hitherto undiscovered arises the saddle or some modification thereof will remain. In spite of the advertisements of the makers of anatomical seats and the opinions of many eminent medical men I contend that for the work which has to be done on it the saddle-type of seat is the best, though I contend with an equal conviction that the ordinary make of saddle is bad and deleterious. I will take the seat first and will ask you to note that the absence of a peak, something to project between the thighs, means considerable loss to a cyclist. First, the peak keeps him on the saddle and steady, and without it he has to use some amount of force—very little it may be, but still some—to keep him on, and this is noticeable from the aching of the arms or thighs which attends the first efforts on a seat. Secondly, it deprives the cyclist of a considerable portion of one of his means of steering. These means are (1) the handle bar and (2) balance; and it is balance which is rendered easy by the peak of the saddle. I see letters in the cycling press from men who have become accustomed to seats who say that they find them more comfortable than saddles. I cannot claim to have given them a prolonged trial and so do not wish to pose as an authority on them; I have, however, tried those which I here show you and may give you my impressions of them.

1. The Burgess Seat is composed of two pads mounted on separate springs and capable of any adjustment necessary to make it fit the rider. So far as design goes it is ingenious, and one would have thought that the circular shape would have obviated the tendency of the thigh action to lever one off the seats, but I found the same difficulty in all the seats excepting La Sellette Papillon, that I had to use a definite amount of force both of arms and legs to keep on the seat, and any unusual jolt such as would pitch one forward in a saddle pitched one forward off the seat. I think that this seat is well suited to elderly riders who may have prostatic trouble and who do not want to ride fast and are careful in choosing their road. It has one advantage over the next which I

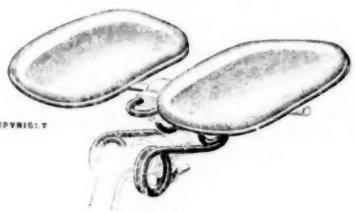
FIG. 1.



Burgess.

shall show you in having no resistance for the thighs to overcome in the act of extension. The seat or seats are made concave on their upper surfaces to take the ischial tuberosities, and I regard this seat as a good attempt at solving a difficult problem. 2. The next seat is the Autapto, which looks like two short thigh-splints distinct and parallel, and each one working on a well-adjusted recovery spring. It follows the thigh up from extension, but the resistance of the spring has to be overcome by the

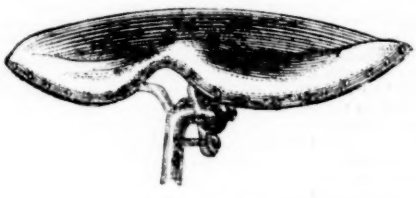
FIG. 2.



Autapto.

muscles which extend. I suppose that it would be arguable that the force thus expended in overcoming the resistance is restored as the spring brings the thigh up again, but this does not seem to me to be quite fair on the extensors, which certainly have the hardest part of the work to do. I found this seat less inclined to throw me forward than the others, as although I was always coming off on one side I was all right on the other. My impression of the Autapto is that it is comfortable and safe, though I must own to a distaste for the extra work which that recovery spring throws upon my hard-worked extensors. 3. La Sellette Papillon is, to my mind, the

FIG. 3.



La Sellette Papillon.

most comfortable of all, and I could be content to ride on it if I had to give up the saddle. It is a well-planned and comfortable seat, and the velveteen covering lends grip to the buttocks and so gives a feeling of security. In a short trial of it I found nothing to make me think it would cause saddle soreness, and I should place it first in the category of seats.

With regard to saddles it will be well for us to start upon this concluding portion of my paper with an idea as to what we want (1) to have and (2) to avoid. We want to have something that we can sit astride of (not hang over) and work our legs without hindrance or discomfort to our

thighs and without levering our tuberosities off the seat and on to the peak, and, further, it should provide means of escape for the soft perineal structures in case a jolt or voluntary alteration of position should tend to put pressure upon them. We want to avoid perineal pressure and anything which tends to riding forward off the broad part or to galling the buttocks or thighs. To meet these requirements I think it will be apparent to you that the surface of the saddle should be a plane and the saddle must be capable of a slight tilt backwards if the rider require such to keep him seated, and, secondly, a groove or opening for the perineum is advisable, though not essential, for in the Brooks' B 90 saddle you will find as comfortable a saddle as you can wish for. Then saddles may be divided into suspension and treed saddles, and for ease and comfort the suspension have my preference. The Sans Bec is misnamed, as it has a beak.

FIG. 4.

Sans Bec.

The peak is, it is true, reduced to a minimum and the sweep for the thighs is good. You will see that it is made on a tree which is perforated for the reception of symmetrical and ingeniously contrived rubber pads, which are placed on either side of a deep but too narrow central furrow. I expected to be comfortable on this saddle, but was not, and I think that the reason was that it was not roomy enough. I should get sore on it. It is a saddle which may be recommended to young men who care more for lightness and speed in riding than for actual comfort, and they need have no apprehension of perineal pressure. Suspension saddles are the various makes which are usually supplied and are usually faulty. There is, however, one which I mentioned just now, the Brooks' B 90,

FIG. 5.

Brooks' B 90.

which is comfortable, and from its length practically safe. Furnished with an elastic, easy, spring, it is most comfortable to ride upon though it will never come into general use, I fear, on account of its size and weight; but to those riders who do not heed these matters it will be found a desirable seat and may be slightly tilted backwards with advantage.

I have worked at this saddle question for some time and have had various wooden ones carved, each with an opening for the perineum, and I have found them not uncomfortable to ride upon. I have, however, a liking for the suspension saddle and have had these two made by a smith and

FIG. 6.

harness maker for my own use. You see that they are long and have an almost absolutely flat surface save only for the slight downward curve of the cantle. The peak has hardly any superior surface, being occupied almost entirely by an opening which runs back from the pommel and is preserved in one case by a metal fork and in the other by a wire. The peak, too, rotates round its horizontal axis and so provides a slight and comfortable amount of play with the thigh action.

This paper will be incomplete to a far more serious extent than it is if I omit all mention of women's saddles. I have had no case of injury to treat, but have been asked about chafing and soreness. As these occurred, without exception, in beginners one must not regard them too seriously. I think, however, that women are less liable than men to damage from pressure. They have not the exposed urethra, and have no prostate to be bumped about. Still they, or those who ride in skirts, have to use a short-peaked saddle, and I think that they would be as much benefited by a groove as men are. They do not ride as fast or as carelessly as men do, and so can somehow do better with a seat than we do. A word of practical advice to any who know of women who are beginning and have a fancy for the seat is that they ride on it as soon as they have learnt to keep on their machine, as the more they get accustomed to the saddle the more difficult they will find it to make the change. In conclusion, let me say that I can recommend no saddle as being universally applicable. I might as well recommend one pair of boots to fit everybody. Each rider has his peculiar method of sitting and pedalling, and each must select for himself a saddle which suits him. I do advise riders to try their saddles before they buy them, and to try them on a ride and not as they do a machine by a few turns up and down the street outside the agent's shop. They should understand thoroughly the right position of the saddle, which is such that they can, at the fullest extension required of the leg, sit properly upon the broad part of the saddle; and to obtain this the saddle must be low enough and far enough back, and probably in riding this position will be assisted by a slight raising of the peak. If the saddle is too high they are obliged to hang over the peak to reach the pedals, and if it is too far forward the leverage of the thighs throws them on to the peak and pommel. A good rule as to the height of the saddle is to see that at the point of greatest extension of the leg the heel can be brought to, or slightly below, the level of the pedal. Given a good saddle properly placed I am confident that only a few elderly riders need fear perineal pressure in cycling.

Exeter.

HÆMORRHAGE DURING THE EARLY MONTHS OF PREGNANCY.[1]

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WHEN I was asked to read a paper at the South-West London Medical Society I thought over the various common obstetric and gynæcological ailments which most concern us as practitioners. In the special departments of medicine, obstetrics and gynæcology, the two symptoms which at once attract a woman's attention are *pain* and *hæmorrhage*. As an isolated symptom in gynæcological cases, pain is more likely to lead a patient to her physician than hæmorrhage. It is this fact which acts so disastrously during the course of uterine cancer, most patients neglecting the early hæmorrhage and discharge, only seeking advice when pain is superadded. In obstetric cases, on the other hand, where a woman believes herself to be pregnant, the onset of hæmorrhage usually induces her to send for professional assistance. I therefore chose Hæmorrhage during the Early Months of Pregnancy as the subject for my paper, and did so with the hope of learning a good deal more from my audience than I can hope to personally impart. I do not propose to discuss the subjects of accidental hæmorrhage or that arising from placenta prævia, for these varieties are best recognised in the later months and are for all practical purposes indistinguishable from other cases of threatened abortion, even if they should cause hæmorrhage in the early months. Cases of hæmorrhage during the early months seem to naturally fall into two groups: (1) where the hæmorrhage is

[1] A paper read before the South-West London Medical Society on May 13th, 1896.

directly due to the existence of the pregnancy, and (2) where it is due to some condition independent of, but concurrent with, the existing pregnancy. The following may be taken as a rough summary of cases coming under the two classes: (1) threatened abortion, missed abortion, incomplete abortion, moles (apoplectic ovum, carneous mole, hydatidiform degeneration of chorion), decidual endometritis (diffuse, polypoidal, and catarrhal), and extra-uterine gestation; and (2) persisting menstruation, granular erosion of the cervix, adenoma of the cervix, mucous polypus of the cervix, fibroids, malignant disease, and ulcerations (specific and non-specific). As a rule, we should be on our guard against the patient being pregnant in all cases of hæmorrhage between puberty and the menopause. Undoubtedly many mistakes are made from forgetting that a pregnant woman need not necessarily have amenorrhœa. It is very possible for a woman to be pregnant several months and yet to be either regular, or approximately so, or else to have metrorrhagia. So much is this the case that it would be safer to go to the opposite extreme and if a married woman complains of metrorrhagia—irregular hæmorrhages every day or every few days—assume for the time being that she is pregnant until this can be excluded. This mental reservation is often advisable in cases of unmarried women before the menopause, for it must be remembered that they may have special reasons for deceiving us as regards their menstrual history. I will now consider shortly the varieties named above in the first group.

Threatened abortion.—Here hæmorrhage is usually the first symptom, but if the abortion is becoming inevitable pain soon supervenes, the cervix dilates, the ovum begins to protrude, and perhaps the membranes rupture. If protrusion has commenced partial separation must have taken place, and the abortion should be encouraged. Short of actual protrusion, where hæmorrhage is not severe, attempts may be made to prevent the abortion. I need not here speak of this. If the abortion be deemed inevitable a warm antiseptic douche should be given, and if hæmorrhage be slight, and especially if the pregnancy be under twelve weeks in duration, the case should be left to nature. If hæmorrhage be profuse plug the cervix and vagina with gauze and give ergot, or else, as I personally much prefer, put the patient under anæsthesia, dilate up the cervix by the rapid method if the cervix will not yield to the finger, and gently strip off the entire ovum from the uterine wall, if possible without rupturing the sac, using the finger as a sensitive curette, meanwhile keeping the uterus firmly pressed down on to the inside fingers by means of the other hand. After removal of the ovum, douche out the uterine cavity with iodised water, and if hæmorrhage be profuse plug the uterus with antiseptic gauze—a means which I have never known to fail.

Missed abortion.—These cases are not always easy to recognise. A woman misses a period or two, followed maybe by a rather sharp loss, and may then begin to lose a little every day or once a week, or even have gushes of blood approximately every month, and, excusably enough, has no idea that her uterus contains an ovum. In some cases the ovum thus retained is changed, by extravasation of blood into its tissues, so that it becomes an apoplectic ovum, and as such will be considered later. The diagnosis of a retained dead ovum is made chiefly by the fact that one or two periods have been missed, by the presence of irregular hæmorrhages, and by the fact that the uterus is smaller than it should be, dating from the last regular period, and that, moreover, it is not enlarging, but tending rather to decrease in size. It has to be distinguished from subinvolution of the uterus after an early abortion, from incomplete abortion, or from molar pregnancy, and it may at first be impossible to be sure; but fortunately in all these cases ergot may be given, and its influence upon the uterus under these several conditions will go far to enable a diagnosis to be made. If, however, hæmorrhage persist, or the temperature rise, rapid dilatation should be effected under anæsthesia, the cavity explored, a complete diagnosis thus made, and the condition found at once dealt with. Cases of missed abortion, apart from those which result in the formation of moles, most usually occur when the ovum dies, as it were, very slowly, a lingering death from some lack of vitality either in the impregnating spermatozoon, as in cases of syphilis, Bright's disease, diabetes, or lead poisoning in the husband, or from similar or other chronic blood states such as anæmia in the woman. In such cases the uterus becomes tolerant to the presence of the degenerating and eventually dead ovum and may not at once throw it off. In such cases, also, the uterus would be less vascular and consequently less active. On the other hand, when the ovum dies more suddenly, an immediate abortion follows, except where extravasation of blood or decidual endometritis has made the membranes unduly adherent. Sudden death of the ovum is due to high temperature or to blood poisoning, as in acute specific fevers or in cholera &c., or to imperfect aeration of blood in cases of pneumonia &c. The following case shows how serious even a short retention may become.

CASE 1.—A married woman, seen with Mr. Busfield of Clapham, had had two children, the last eight years previously. She had been quite regular, her last period having been fourteen days ago. On April 3rd she began to lose a little blood, and this continued slightly for three days, and during the same period her temperature rose and rigors occurred. Though the history was very misleading Mr. Busfield suspected a missed abortion, and on the fifth day I saw the patient with him. She had then just had a rigor and her temperature was 106° F. Occasional uterine colic was present, but no other discomfort. Under anæsthesia an intact six weeks' ovum was removed, and in one and a half hours her temperature was 103°, in three hours 99·5°, and it was normal next morning. Hæmorrhage was rather free after removal of the ovum, requiring plugging of the uterine cavity with gauze.

The following case had less severe symptoms, but was remarkable from the ovum having died within a few days of reaching the uterine cavity.

CASE 2.—A married woman aged twenty-eight years, who had had one child seven years previously, aborted in March, 1895. She was quite regular till her September period, 1895, when she lost rather profusely, and continued to lose almost daily for the following five weeks, when, finding that the uterus was only slightly enlarged, to be not increasing in size, and that the hæmorrhage was getting worse, I rapidly dilated and found an ovum of about ten days loosely attached to the left cornu. She lost rather freely for ten days, but has since been quite regular. This very early ovum had apparently been conceived about ten days before the September period, had not been thrown off when that period occurred, and had been retained for another six weeks.

CASE 3.—A fœtus [which Dr. Routh showed] had been retained *in utero* for five months, causing metrorrhagia and septicæmia. Finally the uterus was rapidly dilated by Dr. Gibson Berkeley of Camberwell, the fœtus removed by the finger and the sloughing membranes by the curette, the woman doing well. The fœtus had undergone mummification and partial calcification.

Incomplete abortion.—If hæmorrhage or sepsis occur after a presumed abortion and the uterus is not increasing in size the cervix should be rapidly dilated and its cavity explored. True septicæmia in such cases is rare, sapræmia or septic intoxication being the usual cause of the pyrexia, and it is as a rule found that removal of the decomposing product causes the temperature at once to drop and the hæmorrhage to cease. The technique of the operation is as follows. The essentials are (*a*) rigid antisepsis, (*b*) dilatation so as to admit the finger, (*c*) complete evacuation of the uterine contents, and (*d*) anæsthesia is almost an essential. After washing the vulva and vagina with wool soaked in corrosive sublimate solution, seize the anterior lip of the cervix with a vulsellum forceps with blunt teeth like Teale's forceps. If the finger cannot be inserted dilate rapidly with graduated bougies and explore the whole cavity very carefully, especially the cornua, pressing the uterus down from outside. Remove any pieces found adherent with the finger if possible, or with the forceps or blunt curette as may be most convenient, but be careful not to injure the uterus, the tissues of which are very soft after abortion. For hæmorrhage apart from sepsis the curette is hardly ever required and in very rare cases should the curette be a sharp-edged one. If the piece removed be offensive the uterus should be irrigated with 1 in 2000 corrosive sublimate solution. If, as often happens when a piece of placenta is removed, very free hæmorrhage occur, the uterus should be at once plugged with iodoform gauze, a process which in my experience has in these cases never failed to arrest the bleeding. The gauze should be removed in twenty-four hours. Most cases of incomplete abortion are easy to diagnose, owing to the history of amenorrhœa, followed by hæmorrhage, passage of the fœtus, and subsequently more or less continuous losses. Where these points are denied the diagnosis is impossible without an exploratory dilatation, as in the following case.

CASE 4.—A woman who had been married three years had borne one child two years ago and had never aborted. Her present illness began with rather profuse hæmorrhage six months before, commencing fourteen days after a natural period. Since then she had lost blood daily, with no increase by which a menstrual date could be fixed, though she had had several severe floodings at irregular intervals. She came under the care of Dr. Murphy of Twickenham six months after the first hæmorrhage, and with his assistance I explored the uterus and removed a piece of placenta which had undergone some fibroid change, and had presumably been there for at least six months, though her view of it was that it had been there since her previous labour two years before. If so, it had produced no symptoms for the first eighteen months—a very unlikely alternative.

The following case is one of a rare condition where the placenta and membranes had come away and the fœtus had been retained. It was most probably a case of placenta prævia where the placenta from some accidental cause had become prematurely detached.

CASE 5.—A married woman aged twenty-six years had had three children, the last eleven months previously; two abortions had occurred prior to the birth of the last child. Amenorrhœa occurred from March 1st to May 3rd. She then "flooded" and had severe pain and passed several "pieces of flesh." Since then (six weeks) she had lost blood daily with occasional fœtor. She suffered much from backache, general malaise, and nausea. On examination the uterus was found to be bulky, flabby, and four and a half inches long, and I believed it was a case of abortion with probably a retained piece of placenta and put her on ergot till arrangements could be made for dilatation. In two or three days she had a series of sharp pains and passed a somewhat shrivelled, macerated fœtus of about three months' gestation with no clots, and digital exploration of the uterus proved that the afterbirth had also come away, probably over three months previously.

Molar pregnancy.—The "moles" most ordinarily met with are "blood moles" or "apoplectic ova," which are due to hæmorrhages into the decidua or between the decidual layers. Less frequently "fleshy moles" are found, due generally to hæmorrhages which have become organised or which are complicated with a good deal of diffuse or polypoidal decidual endometritis. These moles may remain *in utero* for many months, usually acting as foreign bodies and keeping up daily or irregular hæmorrhages. Sometimes the uterus becomes tolerant to their presence and menstruation may for a few periods become regular, but sooner or later the mole will be expelled with smart hæmorrhage and some pain, which latter symptom may, however, be almost entirely absent. Apoplectic ova are probably instances of the commonest pathological changes of the early ovum.

CASE 6.—[Dr. Routh showed a specimen of an apoplectic ovum which was expelled seven months after conception.] The woman had not been "unwell" for five weeks, when some hæmorrhage occurred, and doubtless at the same time hæmorrhage also occurred into the envelopes of the ovum itself, leading to the death of the fœtus. At first I diagnosed missed abortion and put her on ergot. All irregular losses then ceased and she menstruated regularly and I thought I had been mistaken, but at the seventh month the ovum was expelled with some hæmorrhage and practically no pain.

CASE 7.—In June, 1891, I saw a patient with Dr. Dodson of Wandsworth with a history of having had no regular period for six months, but she had had for over four months a daily grumous discharge, which for the last four weeks had gradually given place to offensive watery discharge. On examination the uterus was found equal to the size of a three months' pregnancy, and we came to the conclusion that the fœtus had died in the second or third month and was now retained, and had undergone some organic change and was probably a fleshy mole. As, however, the diagnosis was uncertain we gave her ergot on trial, and the hæmorrhages ceased, but in September—i.e., ten months after conception—the mole came away spontaneously.

Hydatidiform degeneration of the chorion—"*hydatid mole.*"—This can only be diagnosed with certainty by the discovery of cystic villi in the discharges, which are mainly watery blood, but it may be strongly suspected if the uterus is a good deal larger than it should be at the date to which we believe the pregnancy is advanced. This is just the opposite to what occurs with apoplectic ova or fleshy moles, where, though we gather that the woman should be three or four months pregnant, we find the uterus about the size of six or eight weeks. These hydatid moles may also remain *in utero* many months. If hæmorrhage be severe the uterus should be emptied, trying to do this with ergot first, and, failing that, by rapid dilatation. If hæmorrhage is slight, and yet the diagnosis is sure owing to vesicles having been detected, we should not be too much in haste to empty the uterus, as twin pregnancy may be present, only one of which is hydatid.

CASE 8. — [Dr. Routh showed a specimen of hydatid mole from a patient who was sent to him by Mr. Stanley Boyd.] She had had constant daily hæmorrhage for two months after two and a half months' amenorrhœa. The uterus was the size of a six months' pregnancy. Rest in bed made no difference, and as the discharge became offensive and the temperature rose full doses of ergot were given and this mole came away, some fragments in addition having to be digitally removed subsequently. Two years later she had a healthy child.

Decidual endometritis.—Next to apoplectic ova the commonest pathological change in the early ovum is decidual endometritis—diffuse, polypoidal, and catarrhal. Of these the catarrhal form is the most frequent, especially in women who have previously had subinvolution and chronic endometritis. Not infrequently one is able to trace a syphilitic taint, which in a few cases has been congenital. In such cases women may lose a little blood-stained or brownish discharge and as a rule do not believe themselves to be pregnant. After a few weeks the discharge may become watery and gushes of clear or straw-coloured water come away, being one form of hydrorrhœa gravidarum. These cases give rise to more mistakes in diagnosis than either moles or the other varieties of abortion already considered, but if a careful bimanual examination be made the diagnosis is not difficult. The uterus is found to be about the size we should expect in a normal pregnancy of the same duration, not larger, as in hydatid mole, and not smaller, as in cases of missed abortion or fleshy mole. The examination is made the more difficult because, owing to the unhealthy state of the uterus, its upper limit cannot always be felt and its intermittent contractions are very transient. If ergot be given incautiously or the uterus be roughly handled the uterus, already holding its contents very loosely, expels the ovum. These cases have also to be distinguished from both subinvolution and fibroids. Most of these cases go on to full term if treated by three or four grains of iodide of potassium thrice daily. This drug seems to be almost a specific remedy, though it is impossible that all cases can be syphilitic. The most typical cases of decidual endometritis occur in small-pox, and, owing to the hæmorrhage, have been called "hæmorrhagic endometritis," but these are exceptional in usually ending in abortion. The following case occurred after the menopause had apparently set in, rendering the diagnosis somewhat obscure.

CASE 9.—A patient aged forty-five who had been married twenty years had had eleven children, the last three years previously. Menstruation was regular till March, 1891, then amenorrhœa supervened till August, 1892, when she "flooded," and had in January, 1893, for over five months lost blood almost daily. Pregnancy of five and a half months was diagnosed, and she was put on iodide of potassium to cure the endometritis. The hæmorrhage soon ceased, occasional gushes of clear water passing painlessly. She was confined on April 15th of a healthy child, but the placenta being pathologically adherent from the endometritis had to be stripped off.

Extra-uterine pregnancy (*mainly tubal*).—This cause of hæmorrhage must not be omitted, though relatively rare. One or two periods are missed, sometimes only one; then irregular hæmorrhages occur, and possibly a uterine decidua, differing from that of an intra-uterine pregnancy in having no chorionic villi, is passed. Physical examination reveals a sympathetically enlarged uterus and a tumour on one or other side or in Douglas's pouch. Possibly also the patient may complain of pain—the pain of tension—on that side also. The treatment is to remove the tube as soon as the diagnosis is sure. If rupture has already occurred downwards into the broad ligament nothing operative need be done, as the hæmorrhage is necessarily bound down. If rupture has taken place into the peritoneal cavity, and it can be felt to be encysted by pre-existing bowel adhesions which roof over the pouch of Douglas, we may delay operation hoping for permanent arrest of bleeding; but if no *localised* hæmatocele be felt an internal hæmorrhage is evidently going

on, the abdomen must be opened at once, and the ruptured tube removed.

The second large group of hæmorrhages during the early months of pregnancy consist of those varieties due to conditions concurrent with and complicating the pregnancy.

Persisting menstruation is fairly common during one, two, or three months, and in the last case the uterus would be found to correspond in size to a gestation of three months longer duration than was indicated by the amenorrhœa. Physical examination would distinguish these cases from hydramnios, and the absence of irregular losses would prove them not to be hydatid moles. The most likely mistake to fall into is that the large uterine tumour may at the end of the three months' pregnancy be taken for a fibroid tumour. Time, however, will always clear up the case.

I will now very briefly consider some of the local complications which cause hæmorrhage during early pregnancy.

Granular erosion of the cervix.—Here the hæmorrhage is slight and as a rule only present after coitus.

Adenoma of the cervix.—If a granular erosion has been present before conception there will have been a denudation of the squamous epithelium of the vaginal portion. The co-existing glandular cervicitis is aggravated by the increased vascularity of pregnancy, and the resulting projections of papillary processes look like the tentacles of a blood-red sea-anemone. Such a cervix bleeds freely when touched, and when not touched there is usually a blood-stained leucorrhœa. This condition disappears spontaneously after delivery, and can be held in check during pregnancy by usual local remedies.

CASE 10.—A married woman aged thirty years had had one child four years ago. She aborted eighteen months ago. She had had severe endo-cervicitis and erosion. She had now had amenorrhœa for two months, except that she always lost blood after coitus and had a copious leucorrhœa, occasionally blood-stained. The uterus was found to be retroverted and gravid. The cervix was bright red, bled easily on contact, and was evidently adenomatous. The uterus was reduced and the cervix painted a few times with iodised phenol. She went to full term and did well.

Mucous polypus of the cervix.—A woman may perhaps be suffering from almost daily loss of blood, yet becomes pregnant and continues to lose blood as before. The uterus is found to be enlarged, and, naturally enough, if great care be not taken the diagnosis of rapidly growing fibroid is made, and the mucous polypus, even if noticed, is then looked upon as an unimportant complication.

CASE 11.—A woman aged forty-one years had been married four months. She had slight irregular losses before marriage and more severe and frequent since. She was thought to have a rapidly growing fibroid requiring operation. She was found to be about three and a half months pregnant and had two small mucous polypi hanging from the endocervix. These were burnt off and her child was born in due course.

Malignant disease of the cervix.—I do not know of any case of pregnancy occurring where pre-existing cancer or sarcoma of the body of the uterus was present, but it is possible that some of the cases of deciduoma malignum recently reported may be thus explained. Cancer of the cervix and pregnancy are not nearly so rare, and it is evident that with such a cause of hæmorrhage existing, a mistake in diagnosis may be easily made.

CASE 12.—A woman came to the out-patient department of Charing-cross Hospital suffering from metrorrhagia of some months' duration. This was found to be due to epithelioma of the cervix, already beginning to slough and ulcerate. She had a large uterus, but the question of pregnancy did not occur to me. She was admitted and I removed the cervix as high as the internal os uteri, and even then had no suspicion that she was over two months' pregnant. She disappeared from under observation, but I subsequently heard that she went to full term, that the epithelioma speedily recurred, as it always tends to do during pregnancy, and that during a temporary closure of the hospital she went to St. Thomas's Hospital, and Dr. Cullingworth successfully performed Cæsarean section, the woman dying some months after from the malignant disease.

These few cases and my imperfect comments will tend, I hope, to show how important a careful and cautious diagnosis is in all instances of metrorrhagia where pregnancy is a possible explanation or concurrency.

Manchester-square, W.

THE TOXINE THEORY OF SYPHILIS.

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IN a paper on the Pathology of Syphilis[1] I advanced a working hypothesis deduced from a consideration of the phenomena of the hereditary disease, and I have recently applied it to the question of latency in syphilis.[2] In order to cover the vast array of facts involved it is evident that such a hypothesis must be of elemental simplicity. Reduced to its lowest terms it may be stated thus: (1) syphilis is associated with the growth of a microbe in the organism; and (2) this microbe produces a toxine which is the active cause of the phenomena of syphilis. In the light of modern bacteriology this theory seems almost self-evident; however, until the specific microbe has been discovered, cultivated, and inoculated, and the toxine isolated, it must remain a hypothesis only. I will endeavour to show that, at any rate, it is one that will work. The toxine must be supposed to share the properties of other microbial toxines; for instance, it is diffusible and follows the laws of osmosis, it is irritating to the tissues and causes local inflammatory reaction, it is strongly chemotaxic and attracts leucocytes into the area in which it is present, and when existing in quantity in the circulation it causes symptoms of general toxæmia.

The first thing to consider is the point of original infection, the abrasion or fissure through which inoculation takes place. This is often so minute as to escape notice, and when more extensive—for instance, a torn frænum—the mere fact of its occurrence will put a stop to further exposure to the infection. It is, therefore, plain that only a few microbes can be implanted in the first instance, while the prolonged course of the disease indicates that the infection is a slowly developing one. Hence, although there is no reason why the primary colony should not start growing and forming toxine at once, yet it will be so small, or so sparsely sown with microbes, that the toxine produced will be inappreciable in amount. Chemotaxis will occur from the first, but three weeks may well elapse before sufficient toxine has been developed to cause a cell infiltration dense enough to distend the intercellular spaces and be visible to the naked eye. Thus the primary incubation period is one of apparent latency. When the spaces in which the colony is growing have become sufficiently crowded up with leucocytes the indurated papule, the first sign of syphilis, will result. The induration is the essential feature of the lesion, since ulceration is not invariable; this, however, almost always occurs. I believe it to be due to the degeneration of the invading cells from overcrowding and consequent mal-nutrition for the following reasons. Microscopical examination shows that the walls of the vessels are thickened and their calibre reduced by the presence of round cells—cells, I believe, in the act of invading the colony in response to the stimulus of the toxine; therefore, the blood-supply of the infected area is defective. Further, the surface of the early hard sore presents a whitish colour and is covered with a number of small, irregular depressions; it looks worm-eaten—"vermoulu," as Ibsen has it; these depressions can only be due to the disintegration of collections of cells massed among the fibres of the cutis. Again, when the primary induration consists of several confluent papules, ulceration occurs at several points corresponding to the centres of the several colonies, where the induration would be densest and degeneration most likely to occur; these ulcers ultimately fuse into one large sore. Lastly, when the primary sore is situated on a vascular part, like the lip, very little ulceration generally occurs, although induration may be most extensive. The worm-eaten appearance disappears in a few days and the sore becomes smooth and callous, because, I think, it must form a nidus for saprophytic microbes, whose toxic products will dissolve the superficial layers of tissue, as in other chronic ulcers. When the sore is beneath the prepuce, and the discharge retained, evidence of the presence of such toxic irritants occurs in the shape of acute irritation, suppuration, and possibly phagedæna. In the normal hard sore no suppuration exists because it is formed by disintegration only, as I have tried to show.

Since the primary colony is single, and there is no other

[1] THE LANCET, Sept. 10th, 1892. [2] THE LANCET, Feb. 22nd, 1896.

source of toxine, this body will diffuse into the blood with absolute freedom; consequently at the margin of the colony it will be instantly washed away and its chemotaxic influence will cease; therefore, the resulting induration will also cease, and thus the characteristic sharply margined induration of the primary sore is accounted for. It is evident that the position of this lesion is unique; never again in the course of the disease can the combination of a single colony together with a total absence of acquired toleration in the leucocytes occur; I think, however, that the solitary gumma occurring years later may occupy an analogous position, and here a similarly dense infiltration is found. As the primary colony grows peripherally into the tissues the induration will accompany it with equal steps, and the consequent ulceration follow after; in this way the sore increases in size. The actual size of a hard chancre will depend, firstly, on the area originally infected, a group of papules fusing into a larger sore than a single one produces, and a larger abrasion—a torn frænum, for instance—resulting in a lesion at first corresponding in outline to the tear and later tending to a circular form; and, secondly, on the rate of growth of the microbes into the tissues. This, again, depends on the resisting power of the individual; a rapid growth indicates weak resistance and a corresponding luxuriance of the secondary foci may be expected; so for prognosis the rate of increase, not the size of the lesion, is of importance.

The microbes in their growth in the primary colony will soon reach the beginnings of the lymphatics, and be carried in the lymph stream to the nearest gland, and thence to the whole group; some falling by the wayside will grow on the walls of the lymphatics, as is shown by the resulting induration; the rest will reach the first gland and grow in it, producing toxine and consequent infiltration and indolent enlargement. Thence the infection will spread to the other glands with a like result. The microbes are certainly present in the glands, since I have seen a hard sore under the nail follow the scraping out of such glands which had suppurated, presumably from a further infection by pyogenic microbes. If the infection can spread from gland to gland it can spread further and in this way reach the circulation. Thus microbes must be continually shed off from the primary glands and be carried by the lymph stream to the blood stream and so be scattered broadcast through the organism. They will ultimately be stranded on the capillary walls, probably at the most distant points of the periphery, such as the looped terminal vessels of the skin and mucous membranes, just the situations where evidence of their presence first occurs. It seems unlikely that more than one microbe would strand at a given point, hence I conclude that the secondary colonies generally start from a single microbe which multiplies indefinitely. The colony will grow through the vessel wall into the surrounding spaces, even penetrating the epidermis, as the contagious secretion of condylomata shows. These secondary colonies will again form toxine, which will diffuse into the circulation. So long as this process can continue no local irritation will arise and the colony will remain apparently latent. This apparent latency, as I have already pointed out, may continue in an infected ovum for nine months, while the child is born apparently healthy, the explanation being that the toxine diffuses into the maternal circulation. At birth, however, this safety valve is shut off, toxine begins to accumulate, the child falls off, becomes wasted and anæmic, and shortly an outburst of secondary lesions occurs. I believe that a similar accumulation of toxine precedes the evolution of secondaries in acquired syphilis; there is a similar train of general toxæmic symptoms, such as malaise, anæmia, rise of temperature, and loss of weight. When the toxine tension in the blood reaches a certain point further diffusion from the microbic foci will be impeded, the toxine will be retained in the foci and produce local irritation, hence the development of the rash. That the accumulation of a microbic toxine in the blood can cause general and local reaction is demonstrated in the tuberculin treatment of lupus. Here we know for certain that bacilli are growing locally and forming tuberculin, which must diffuse into the circulation, where its presence is shown by the general reaction following the injection, which in a healthy person would not occur. By the injection then the general tuberculin tension must be raised, and since all other circumstances remain unchanged the general reaction must be due to this raising of the tension. Since the tubercles are extra-vascular this circulating tuberculin can reach them only by diffusion, and this will be prevented by the presence of the tuberculin already in the tubercles; this local tuberculin will similarly be prevented from diffusing into the blood stream, and so accumulate and be the actual cause of the local reaction. It has been proved by experiment that an injection of tuberculin in a case of secondary syphilis also causes general reaction, and in a case of rupia local irritation similar to that occurring in lupus. Therefore, the toxine of syphilis must be so similar to tuberculin that one body can impede the diffusion of the other. The secondary foci in syphilis differ only in number and size from rupial foci, and as units occupy a similar position to the organism as a whole; it cannot make any difference to them individually whether tension is raised and local diffusion impeded by an injection of tuberculin or by the production of toxine in countless other foci. I therefore conclude that the outburst of secondaries depends on the accumulation of toxine in the blood, and this accounts for the polymorphism of the rash, since all foci above a certain size will share the irritation and be revealed. The older and larger foci will naturally be the most irritated, since more toxine will be produced in them; hence the corresponding lesion will be larger and more active. The youngest colonies will, on the other hand, not produce enough toxine at first to show reaction, but as they grow irritation will develop, fresh lesions appear among the old ones, and as the latter die down the eruption will present lesions in every stage of development and decline. When the secondary outbreak is acute I have sometimes noticed a corresponding irritation in the primary sore which is diffusely indurated, hot, red, and inclined to discharge; indeed, when I see a primary sore in this state I confidently expect to find a marked display of secondaries. The primary sore ceases to grow at this stage, and presently cicatrises and disappears or becomes converted into a scaling patch or mucous plaque. This happens even when the secondaries are evolving. It seems to me that the cells invading both primary and secondary foci must attain after a time sufficient toleration to fall upon the microbes. The acquisition of this toleration may, I suppose, be connected with the formation of an antitoxin. Now, the cells in the primary focus have been exposed longer than those elsewhere, so it is natural that they should be the earliest to acquire toleration and be able to encapsule the microbes and destroy them more or less. Consequently the production of toxine will cease in the primary focus, and the cells, no longer being attracted, will tend to wander back into the blood. So the induration will melt away and the sore be able to heal.

A similar process will follow in the secondary foci in ordinary cases, the tolerant cells will encapsule the microbes and restrain their growth. Toxine formation will largely cease, the invading cells disperse, and the signs of irritation disappear. At the same time the toxine tide in the blood will fall and a period of apparent latency set in. The much less marked cell infiltration of the secondary lesions as compared with that of the primary sore is due, I suggest, to two factors: firstly, the general toleration which the leucocytes must acquire will render them less susceptible, and, secondly, the toxine tension in the foci will not be greatly higher than that in the blood, and its stimulating effect on the cells will thus be minimised. At the same time the toxine will diffuse with difficulty and tend to hang about the foci, hence the induration which exists will fade gradually into the normal skin and not be sharply margined. Although the secondary rash is polymorphic, yet in different individuals different classes of lesions obtain, in one scaling papules of different sizes, in another roseolous patches; one case I remember in which the primary lesion presented no ulceration, and the secondaries were simply macular without the least tangible infiltration, showing that in this individual resistance was such as to prevent infiltration enough to be followed by ulceration in the primary lesion, while in the secondaries it was even less marked. The foci growing in the mucous membranes follow a like course to those in the skin modified by local conditions. There is no reason, I think, why foci should not develop elsewhere, and periosteal pains may indicate their presence; however, since they are small at this stage evidence of their existence in deep situations cannot be expected except in the worst cases. The general enlargement of the lymphatic glands will, I think, be due to the same cause as the primary bubo—namely, the growth of microbes carried from the secondary foci to the corresponding glands. It is not necessary that these foci should ever have been large enough to be revealed, while, on the other hand, they may

well have died down before the glandular enlargement appears That this enlargement will persist long after the secondaries have so disappeared is quite likely when the structure of the glands is considered, for it is evident that after toleration has been acquired and the microbes encapsuled and destroyed the phagocytes will regain the circulation much more readily from the cutaneous lesions than from the recesses of the glands. The pigmentation of the secondary lesions must, I think, be due to the local action of the toxine on the red corpuscles, just as general anæmia results from its accumulation in the circulation.

(To be continued.)

THE REFLEX INFLUENCE OF ALVEOLAR LESIONS ON THE VOCAL CORDS.

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ONE who has been engaged in the active pursuit of dental surgery for a considerable time can scarcely fail to have met with strange and mysterious cases which in diagnosis and treatment baffle the efforts of the most experienced and skilful practitioner. When commencing this article it was my intention to confine the subject to that of neuralgia in its almost endless and protean forms. A unique manifestation of diseased action lately brought under my notice has, however, decided me to deviate from my original intention; I have therefore to introduce my subject metaphorically in order that it may be more clearly understood by the readers of THE LANCET.

If we take the whole range of musical sounds as exemplified, for instance, in the violin, and find them all in point of tone and quality to harmonise, we then pronounce such an instrument to be of a perfect type and its commercial value almost fabulous. It is not unusual to hear of such a sum as £2000 being paid for an instrument of that description. I was at one time intimately acquainted with a gentleman who had made the theory of music a profound study for many years. Moreover, he was an advanced mathematician and probably made millions of figures in his geometrical calculations of proportion in the different parts making up the entirety of the instrument. His knowledge of acoustics was also considerable, and as the financial position of this gentleman was equal to the enlightenment of his mind he spared no expense in providing for experiments, in the hope of discovering the true and definite principle on which all instruments of this class could be accurately constructed according to the Amati or Stradivarius method. I was on one occasion invited to his house to see a violin he had recently purchased in London and for which he had paid £30. It must not be imagined that the instrument commanded that price for its excellence—just the reverse, for the dealer assured this devoted amateur that it had been used in the Italian opera orchestra for a considerable time, but had suddenly failed in its tone. This fact excited the curiosity of my friend and strengthened his desire to purchase it that he might avail himself of the opportunity to examine the make and shape in a critical manner in the endeavour to find the cause of failure. He commenced by first removing the cover, and on minute examination of that part it was found that a worm had eaten a small hole in the bass bar. This discovery was made known to the vendor and the violin returned with instructions for a renewal of the defective part. When that was done the instrument was restored to its original state and value. In all the intricacies and mysterious working of the human system diagnosis is at all times difficult and successful treatment no less so. I have lately met with a case in practice which seems so analogous to the one just described, although in two different natures, that a narration of it may not be uninteresting.

A clergyman in endeavouring to utter the letter *h* set up a spasmodic action of the vocal cord which took him a few seconds to recover from ere he could proceed with his discourse. This remarkable affection gave rise to much speculation among the members of his congregation as to the cause. Within the past few months an opportunity has been afforded me for an oral examination, and having noticed a great deflection in the right inferior maxilla where the first molar and second bicuspid were formerly situated I interrogated him as to the cause. He informed me that these teeth had been extracted by a non-qualified man, who had removed a large portion of the jaw with them; so much so, indeed, as to injure both the nerve and artery—in the first instance interfering seriously with the neurotic force and in the second disturbing the arterial current. It instantly occurred to my mind that this terrible mischief was the cause of his lamentable malady produced by reflex action on the particular cord; there can be little doubt that the damaged part described had originated the affliction from which he suffered and with little chance of amelioration. Here we have evidence of a bungling mutilation by a non-competent operator, with the unhappy result of destroying the best prospects of a useful life.

Truro.

A RECORD OF THE DEATHS OCCURRING AMONGST 400 ADOLESCENTS BETWEEN JAN. 1ST, 1871, AND DEC. 31ST, 1895.

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IN continuation of my three papers which appeared in THE LANCET of Feb. 15th, March 28th, and May 2nd, 1896, I am able, by the courtesy of the present head-master of Rugby, who is very keen on all questions relating to the health of the school, to place before the profession an account of our mortality during the twenty-five years commencing Jan. 1st, 1871, and terminating Dec. 31st, 1895. During this period the average number of boarders has been 403. The ages range between thirteen and nineteen years. There are eight months spent at school and four months passed at home each year. The deaths during term, therefore, ought to be at least twice the number of those occurring during the vacation, while if allowance be made for the aggregation of so many young people the proportion should be still greater.

1.—DEATHS ARISING DURING TERM.

1. *Pneumonia*.—A case occurred in March, 1875, and death took place between the fifth and seventh days, as usual, from failure of the heart's action.

2. *Pleurisy*.—A case appeared in June, 1877, and death took place at the end of the fifth week suddenly from syncope owing to pleuritic effusion. In those days it was a disputed point as to the value of early tapping. Had this case arisen a year or two later paracentesis would have taken place early before tension occurred and probably a life have been saved.

3. *Scarlet fever*.—A case occurred in March, 1881, and although it was a mild type of fever death took place on the fifth day. I believe that the mother and four children in the same family had previously died from scarlet fever.

4. *Diphtheria*.—A case arose in July, 1883, and death took place from exhaustion. The lad was a great naturalist, and had been searching for some of his treasures in the black mud of a ditch, of which his nails were full.

5. *Typhoid fever*.—This case occurred in December, 1889, and death arose from perforation on the twenty-fourth day. It originated from eating oysters which were sent as a present from home, and which had come from the mouth of the Liffey or of the Mersey.

6. *Cerebro-spinal meningitis*. — This case occurred in November, 1893, at the very onset of an attack of influenza, and death took place on the third day.

7. *Death while running*.—This took place in November, 1892, during a run of about three miles, from disintegration of the blood. The runs are now so safeguarded and classified according to age and physique as to be within the compass of all healthy boys, who can but be benefited by participating in them.

8. *Peritonitis*.—This case occurred suddenly, after a day or two's illness, in July, 1894, and arose in all probability

from the rupture of a suppurating mesenteric gland; the patient had suffered from mesenteric disease some years previously.

II.—DEATHS ARISING DURING THE VACATION.

1. *Diphtheria.*—A case occurred while on a visit to the Isle of Wight in September, 1887.

2. *Scarlet fever.*—A case occurred in April, 1890, while studying French in Paris.

3. *Erysipelas of head and face.*—This case occurred in 1891 at home.

TABLE I.—*Showing the Diseases causing Death during Term and Vacation between Jan. 1st, 1871, and Dec. 31st, 1895.*

Diseases causing death.	During term.	During vacation.
Pneumonia	1	—
Pleurisy	1	—
Scarlet fever	1	1
Diphtheria	1	1
Typhoid fever	1	—
Cerebro-spinal meningitis	1	—
Erysipelas of head and face	—	1
While running	1	—
Peritonitis	1	—
Total number of deaths which occurred during term and vacation	8	3

TABLE II.—*The Mortality arising amongst 400 Adolescents during the Twenty-five Years commencing Jan. 1st, 1871, and terminating Dec. 31st, 1895.*

Deaths arising from all causes per annum.		Death-rate per cent. per annum.
Term = two-thirds of year	0·32	0·08
Vacation = one-third of year	0·12	0·03
Total for year =	0·44	0·11

In all the previous series of papers the records have related to the *boarders* at school only, as I have no knowledge of the *day scholars* except in so far as individual parents do me the honour to consult me. But in recording the deaths I could not feel it consistent with my duty under any pretext to omit a death in any part of the school, whether in term or vacation. The average number of boarders in the school has been 400, but when the day scholars are included the average is as nearly as possible 435. The two deaths, Nos. 7 and 8, occurred amongst day scholars, and although they were both under my care, yet in strict accuracy they should not be included in calculating the death-rate amongst 400, but amongst 435, which reduces it from 0·08 per cent. to 0·07 per cent. Further, this makes the deaths amongst the boarders at school exactly the same as amongst the boarders at home when the time is taken into consideration. Or, to put it in another form, during a period of twenty-five years, amongst 435 adolescents, 6 died while residing at school, and 5 while residing at home.

It will have been observed, in studying these records which I have had the honour and privilege of placing before the profession, that of recent years some of our *illnesses* have apparently increased, which should not be the case with our extended experience. But the increase is only apparent: it arises from an increase in *numbers* in the school; for whereas during the twenty-five years we have had an average of 435 all told, at the present moment there are 539 boys in the school.

What a privilege it will be for the physician who records the next twenty-five years of medical school work, for with early paracentesis for pleurisy, with certainly antitoxin for diphtheria and possibly antitoxins for pneumonia, scarlet fever, typhoid fever, cerebro-spinal meningitis, and erysipelas, he will scarcely require certificates of death to be placed at his disposal.

Rugby.

SOME REMARKS ON VAPOURS, SPRAYS, AND FUMES.

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WHEN the great benefits which have been obtained from the inhalation of chloroform, ether, and nitrous oxide are observed it must be admitted that the administration of agents in the form of vapour is a subject of interest and importance. The change of any substance from the fluid state to that of vapour is generally due to the action of heat, and this is also true when the substance is changed from the solid state to that of vapour. When such substances as opium or the leaves of various plants are converted into the form of vapour it is usually necessary to effect the change by the process of combustion—that is, by raising the temperature far above that which is necessary when the substance we are treating is in the fluid state and requires only to be raised to its boiling point—at least, not above it. It is proper, therefore, to distinguish clearly between vapours, sprays, and fumes, for sprays are only changes from the fluid state to one of very fine division of particles, without elevation of temperature; while fumes are the results of slow combustion, which effects not merely a change of condition of material, but a disintegration of components and often some chemical decomposition.

How little this subject is understood is proved by the last Pharmacopœia into which the vapores were introduced. Any criticism of these "vapores" is unnecessary, as their inutility and insignificance are generally recognised. Whenever the physician desires to administer any medicinal agent in the form of vapour he finds it difficult to determine without further experiments how he may best effect it. If he takes that class to which camphor, menthol, benzoic acid, and many other species belong he will have to consider whether they require to be dissolved in water or some more active solvent in order that he may obtain them in such form and strength that allow of their inhalation. If he dissolves one of them in some liquid which he can easily convert into vapour, the question will have to be decided to what extent the substance he has dissolved is affected by the vaporisation of the solvent liquid. In some cases he will find that the active substance is volatilised much below the boiling point of the liquid and in others very little if at all so. Although an oil such as that of eucalyptus floats on the surface of water it is not easy to volatilise it by boiling the water, while such a substance as thymol is volatilised with a rapidity far greater than that of the water which contains it.

These general remarks are made simply for the purpose of directing attention to the need that exists for far greater knowledge than is possessed at present, not of the therapeutic value of various agents, but the mode in which they should be treated in order to have them in such a form that they can be used for clinical purposes.

In regard to sprays the physician is in a better position, as there are various well-arranged instruments which enable him to convert fluids into the form of sprays by the simple action of atmospheric pressure and admixture.

When the question of fumes is considered the strange and vastly wide influence exerted by the smoking of tobacco, opium, and a few other vegetable substances cannot but be attentively regarded. On analysing what is meant by the term "smoking" it is seen that really combustion is promoted by the effort of inspiration and that thus are converted into the form of vapour the active properties of the vegetable substances that are employed. One cannot obtain the active property of opium by volatilisation in such a form that it can be inhaled in the same way that a volatile substance like menthol or camphor can be treated. Opium may be added to water or spirit, but if the solution is heated the liquid does not part with the opium and no effect is obtained by its inhalation. To convert opium into the form of vapour slow combustion must be used, and how this may best be done requires consideration. The same remark applies to many other active medicinal agents—notably datura and stramonium and cannabis indica. I am not dealing with the question of the therapeutic value of any of the substances, but with the best method of combustion. A simple principle has been applied by which this can be easily effected. By

the action of a jet of air playing in a small tube the combustion of the leaves of plants or of such a substance as opium is promoted and vapour is given off which contains the active properties of the leaves or other parts of the plant which is being burnt. Under the name of the "Zephyron" Messrs. Maw, Son, and Thompson are introducing to the profession an apparatus which acts in the way described, and whether any benefits may be obtained from its use remains to be tested by clinical experiment. The chief value of the zephyron depends on the entire novelty in that a small elastic ball produces the jet of air by which combustion is effected, and there is no necessity to use the heat of a spirit lamp to obtain the force required. It may be well to observe that the inhalation of fumes obtained from smoking is not an easy matter, for these fumes are not as a rule inhaled into the lungs. There seems to be some advantage in administering certain medicinal agents by inhalation over that of introducing them into the system through the stomach by administering them in the solid or liquid form. It is unnecessary to criticise the great benefits obtained by the method of subcutaneous injection, and I will not venture to compare it with the inhalation of fumes beyond remarking that the latter is simpler and more easily effected. Those who have seen the zephyron are favourably impressed with its utility, as it enables the physician to administer fumes to those who are unable to smoke, and even for some who can do so it makes inhalation far easier. Where the leaves of plants are used, as in the preparation of powders or cigarettes for the relief of asthma, there does not seem to be much difficulty in obtaining their combustion by the addition of nitre. The saturation of paper with solutions containing the active properties of drugs has long been adopted in the manufacture of cigarettes, but the fumes given off by this method cannot well be inhaled as they are more or less irritating to the mucous membrane. There is one material which may be used instead of paper for treatment with solutions, and this is the fine wool obtained from peat. It is true that the leaves of many plants may be moistened with solutions, dried, and then burnt slowly. For example, if the leaves of stramonium are moistened with an aqueous extract or tincture of opium fumes are obtained containing the active properties both of stramonium and opium. The leaves of various species of mint yield fumes which can be inhaled without irritation, just as is the case with the pure leaves of tobacco.

In the Materia Medica of the Hindus[1] mention is made of "Dhumapâna or Inhalations." It is stated that "tapers or pastilles made of medicinal substances are set fire to and their fumes inhaled through a tube by the mouth or nose," and that "incenses or tapers composed of various medical substances are also burnt in rooms." It seems, indeed, that the inhalation of fumes is a method of treatment of ancient date, and it is reasonable to think that the practitioner might avail himself of it at the present time with all the assistance given by advance of knowledge. To enter into details, however, is not the intention of the above remarks, which can only be regarded as an introduction to the consideration of a subject of great therapeutic interest.

Gunterstone-road, W.

THE PRODROMAL ERUPTIONS OF SMALL-POX.

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RESIDENT MEDICAL OFFICER TO THE CITY HOSPITAL, PARK-HILL, LIVERPOOL.

As so much attention is directed to the subject of small-pox at the present moment, the following note on the rashes met with in the initial stages of the disease may prove of interest.

Initial rashes were present in 25 of 220 cases which passed through my hands in the Bradford Borough Small-pox Hospital in the winter of 1893-1894, forming about 11 per cent. of the total cases. These eruptions, which take the form of an erythema or of subcutaneous hæmorrhage, are said to appear on the day preceding or on the same day as the papules of the characteristic eruption. Though described as being of but short duration I found them still present as late as the sixth, seventh, and eighth days of illness, the erythematous form, curiously enough, proving the more persistent. In several cases both erythema and hæmorrhage were met with at the same time. The erythema resembled the eruptions of measles and scarlet fever and was present in 10 cases. The measly form was usually fairly copious in amount, the arms being the favourite site, less frequently the trunks and legs, while the face was but once the seat of the eruption. The scarlatinal variety was most frequently found on the abdomen. The most pronounced case presented two complete zones round the shoulder and pelvic girdles united down the flanks. These erythemata faded to a dull yellow after two or three days, and finally disappeared from the fourth to the ninth day of illness. Elevation of the eruption was never observed and thus a strong point of difference was presented from the eruption of measles and from certain toxic rashes characterised by infiltration into the skin. Any appreciable resemblance to erysipelas was not observed. Subcutaneous hæmorrhage occurred in 18 of the 25 cases, taking the form of numerous petechiæ confined to a comparatively small area of the skin and thus differing in distribution and form from the subcutaneous hæmorrhages of hæmorrhagic small-pox which are individually much more extensive and are generally distributed. The deep purple or black hue of the latter variety was never attained to. While the lower part of the abdomen and the inner aspect of the thighs were the areas most frequently selected hæmorrhage was also to be seen in various situations on the trunk and on the upper arms. It was never met with below the elbows or knees or on the face. The latest date at which petechiæ were still recognisable was the seventh day of illness, careful distinction being made between the initial hæmorrhage and that which may make its appearance later in the course of the illness. These initial rashes appeared to favour no particular age-period, being met with anywhere between the ages of seventeen and forty-eight years. A remarkable point was their relative incidence on the vaccinated and unvaccinated, 23 of the 25 cases having been primarily vaccinated. The proportion in percentage of the vaccinated to the unvaccinated among those showing these eruptions was thus 92 to 8. This was not due simply to the excess of primarily vaccinated cases in the hospital, for their proportion of the total cases was not more than 70 per cent. The occurrence in vaccinated cases being so notable it was natural to look for distinctly favourable results from the collective cases, and this expectation was fully justified. Apart from any consideration of this kind, however, where erythema was present there was a very distinct relation observed between the prodromal rash and the true eruption which materially influenced the progress of the case. The papular rash either did not develop at all on the erythematous areas or did so to a very scanty degree, and as these areas were usually extensive the cases were thus of a mild type. This relation was shown from the opposite point of view in a case where the prodromal eruption was scanty and the true eruption was elsewhere copious. The termination was, however, favourable as in all the erythematous cases. It was somewhat different when hæmorrhage was present. As the parts where they usually appeared were the groin and the lower part of the abdomen, where the characteristic papules were least frequently seen, no influence on the true eruption could thus be said to be exercised. Thus among these cases a severe type of the disease preponderated, but in no case did the illness terminate fatally.

[1] Udoy Chand Dutt, Calcutta, 1877, p. 20.

BIRKENHEAD MEDICAL SOCIETY.—The seventh and last monthly meeting of the session was held in the society's library on May 8th. Due notice having been given the two following resolutions were considered and carried, the first unanimously and the second with two dissentients: 1. That in the opinion of this meeting it is unprofessional for medical men to serve any medical aid society in which touting is carried on, in which there is no wage-limit, and where money is funded by the society at the expense of the medical staff. 2. That in the opinion of this meeting the members of this society should refuse professional recognition of "sixpenny doctors" whether by meeting them in consultation or otherwise. The mover of the second resolution gave the following definition of "the sixpenny doctor"—viz., a medical man who openly or otherwise lets the public know that he will give them advice and medicine for sixpence, and will visit them for one shilling; or any medical man who has in that way commenced his practice.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propriaa collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

LEWISHAM INFIRMARY.

A CASE OF PREGNANCY COMPLICATED WITH A PAROVARIAN CYST SIMULATING EXTRA-UTERINE FŒTATION.

(Under the care of Dr. F. S. TOOGOOD, Medical Superintendent.)

THERE are many cases on record of the complication of pregnancy by ovarian cysts, and in numerous instances the removal of the cyst has not exercised an unfavourable result, and pregnancy has gone on to the full term. The chief interest in this case is the resemblance which it appeared to have before abdominal exploration to a case of extra-uterine fœtation.

A married woman aged twenty-six years, who had not previously been pregnant, was admitted to hospital on Feb. 13th last complaining of abdominal pain. She brought with her a letter from the obstetric physician of one of the large London hospitals stating that he considered her case to be one of extra-uterine fœtation. She regarded herself as being four months pregnant, but stated that there had been some slight discharge at each of the missed periods. There was constant abdominal pain which had increased in severity during the last month. On examination the left part of the lower abdomen was found to be occupied by a soft elastic tumour reaching almost to the level of the umbilicus, which yielded no sounds whatever when examined by the stethoscope and phonendoscope. Per vaginam a rounded elastic swelling occupied the whole of the pouch of Douglas, while the cervix, which was pushed forwards and upwards, was firm, and the os, whilst rather large, was not patulous. It could not be demonstrated that the tumour felt through the abdominal walls was not the pregnant uterus or that there was any connexion between the above tumour and that felt in the pouch of Douglas. The patient was, however, anxious for operation, and on the 20th the abdomen was opened in the middle line and there were found a pregnant uterus and a parovarian cyst about the size of a cocoanut which was incarcerated in the pelvis and was pushing up the lower segment of the uterus. The cyst was removed without difficulty, the pedicle being transfixed and tied with silk and dropped back into the abdomen. The recovery was uninterrupted; she did not abort. The deep stitches were removed on the ninth day and the superficial on the fourteenth day. She got up on the twenty-eighth day, and, having been supplied with a belt, left on the thirty-fifth day, announcing her intention of returning there to be confined. Mr. E. R. Badcock, assistant medical superintendent, supplied many practical hints and assisted at the operation.

MILDMAY MISSION HOSPITAL.

A CASE OF LAMINECTOMY FOR PARAPLEGIA DUE TO SPINAL CARIES.

(Under the care of Mr. E. PERCY PATON.)

THE operator in this case is to be congratulated on not giving the account of the operation and its results when the improved condition of the patient may have appeared to warrant his so doing. The profession is thus enabled to judge of the case as a whole and appreciate it in all its bearings. Many cases have been published in which laminectomy for paraplegia depending on pressure on the spinal cord as the result of caries of the vertebræ has been performed with results which appeared at the time satisfactory, and have, as in this case, fully justified the operation. What is needed, however, is a record of the condition of many of these when some months have elapsed. This case shows the amount of repair which may follow the operation, also a possible reason for failure to obtain a more perfect result, although the condition of the cord as revealed at the necropsy suggests that it may have been damaged beyond recovery before the operation. So many cases of paraplegia due to spinal caries recover after prolonged rest that there is a natural desire to postpone operation as long as possible.

A boy aged eight and a half years was admitted to the hospital on Sept. 13th, 1894, with the history that during the summer of that year he was noticed to have some weakness of the left leg, which caused him to limp a little; but after a short time this improved and he was able to walk about quite well until five weeks before admission, when weakness and stiffness, with contraction of both legs, developed and confined him to bed. On his admission he was found to have a marked angular curve in the lower dorsal region (about the seventh, eighth, and ninth spines), with, however, no signs of pain or tenderness and little, if any, rigidity of the spine. Both legs were drawn up so that the thighs almost touched the abdomen and the heels the thighs. There was almost complete palsy to sensation and motion of both legs as far up as the top of both thighs, with much rigidity of both hips and knees; the knee-jerks were very active and ankle clonus was marked. Micturition and defecation were normal. No signs of psoas abscess were to be found or of suppuration anywhere else, or any signs of further tuberculous disease. During the next week or two an attempt was made to straighten the legs by a light weight and then to keep them so with splints. This, however, it was found impossible to do, as the slightest pressure on the legs produced sores almost at once. On Nov. 1st it was noted that the paralysis to motion and sensation had increased and was now complete to about the level of the distribution of the eleventh dorsal nerve, and that all reflexes had disappeared in both legs, and micturition and defecation were now carried out quite unconsciously. Also, the temperature had begun to be very irregular, but no sign of suppuration could be found. The above condition continued for the next two months without much alteration except for the fact that reflexes returned in both legs, which still remained drawn up against the abdomen. The temperature, however, kept very irregular, and as the patient was obviously rapidly going down hill it was decided to explore the cord by laminectomy. On Jan. 14th, 1895, a vertical incision was made over the seventh, eighth, and ninth dorsal spines and the laminæ of these vertebræ were rapidly exposed, the wound being stuffed afterwards with sponges to stop the bleeding, as recommended by Horsley. This was found very effectual, for on removing the sponges in a few minutes the wound remained dry. Two laminæ were now removed without difficulty by means of a saw and bone forceps. This was made much more easy by the presence of the angular curve. The theca when first exposed did not pulsate, but after a minute or two it began to do so. A careful examination now showed the dura mater to be covered by a moderately thick layer of granulation tissue, which was carefully dissected away. An exploration was then made of the posterior surface of the vertebral bodies with a probe, which resulted in the escape of a small quantity of caseous material, with a little pus, and as no more of this could be found and the patient's condition did not seem to admit of prolonging the operation the wound was closed with deep and superficial sutures, a fine drainage-tube being laid in it next the dura mater and brought out at its upper and lower angles. The patient rallied from the operation well, and the wound healed without any trouble, being dressed for the first time at the end of a week, the stitches being taken out then and the tube partly removed. Subsequently to the operation the general condition materially improved, the temperature being distinctly less hectic, also his appetite and general cheerfulness greatly improved; but with regard to the most important symptoms—namely, the paralysis—there was never any more than a partial improvement in sensation and power of movement in the lower limbs and in his control over the functions of micturition and defecation. On April 22nd a considerable abscess was found in connexion with the left hip-joint, which was opened, the joint being found to be completely disorganised and most of the head of the bone gone. It was found necessary to drain the cavity, which contained a large quantity of caseous masses, thin pus, and small pieces of carious bone. From this time the patient gradually went downhill and died on Dec. 12th, 1895.

Necropsy.—A post-mortem examination was made on

Dec. 14th, only the region involved in the laminectomy being examined. The wound was found to be soundly healed. The gap from which the laminæ had been removed was found much narrowed, and where no new bone had been laid down from the periosteum the space was filled in by very tough, resistant fibrous tissue, which formed a very efficient protection to the posterior aspect of the cord. On cutting through this scar there appeared to be some apparently recent clot around the theca, while on the right of it and pushing it over to the left was a mass of caseous material, which, on removing about three inches of the cord, was traced to a considerable caseous focus in the posterior part of the body of the vertebra just below the most prominent point of the angular curve. On the anterior aspect of the vertebral column was a similar caseous focus connected with the anterior part of the vertebral bodies. No pus had collected around either of these foci. The piece of cord removed was narrowed at the seat of pressure to a thickness rather smaller than that of an ordinary lead-pencil and its consistency was much tougher than usual, while the membranes around it were very much thickened and covered with thick tuberculous granulations. Unfortunately the piece of cord removed was spoilt for purposes of microscopic examination.

Remarks by Mr. PATON.—I have thought it worth while to record this case, though unsuccessful, as it is a complete one and the cause of failure to improve the paralysis was discovered at the post-mortem examination. This was no doubt due to the fact that the caseous material, which at the necropsy was found to have extended from the back of the vertebral bodies and in front of the cord to its lateral aspect, was already at the operation pressing on the cord in front, but had not extended far enough to be noticeable from its posterior aspect, at any rate, without a much more free removal of laminæ and more extensive interference with the cord itself than was done in this case. It seems difficult to see how a caseous collection in the bodies can be reached from the posterior aspect without damage to the cord itself, though Arbuthnot Lane seems to speak of it as comparatively easy. Chipault advises placing a hard cushion under the patient's shoulders and buttocks while his body lies prone and thus producing a general concavity of the spine backwards. He says that by this means the cord is rendered lax and can be hooked out of the way and so allow the posterior aspect of the vertebræ to be dealt with. Without having tried this device it would seem, however, that the nerve roots would prevent any considerable retraction of cord, even though it could be made sufficiently lax longitudinally. It would also seem that in a very much weakened column such as one has in a case of this kind, to put such an amount of strain on it as the proceeding above described entails cannot be done without considerable risk. The great mistake in the above case seems to me in not having made a sufficiently free opening into the spinal canal, though even had this been done it seems doubtful if much good could have resulted, and the general condition of the patient did not seem at the time to permit it. It is interesting to note at the end of eleven months how securely the posterior aspect of the vertebral canal was closed up with bone and tough fibrous tissue, and this even in a patient whose general condition was very unsatisfactory for sound repair.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The last meeting of the session was held at the Miller Hospital on May 1st, Mr. Ernest Clarke, President, being in the chair. The President delivered his annual address, the subject of which was the Various Manifestations of Eye-strain upon the Eye itself and the Bearing this has upon Treatment. He showed that the correction of ametropia was the essential part of the treatment of chronic or recurrent diseases of the eye, such as blepharitis, many forms of conjunctivitis, scleritis, iritis, and even glaucoma. He exhibited tables showing that in 200 eyes where cataract was present, in 150—i.e., 75 per cent.—there was astigmatism, and he showed that by correcting the ametropia in incipient cataract the advance of the disease might be averted or retarded.—Mr. Thomas Moore and Mr. Webster gave a demonstration of the Roentgen Rays.—Messrs. Johnson and Johnson exhibited a very fine display of Surgical Dressings and Plasters.—Messrs. Maw, Son, and Thompson showed a large Variety of New Instruments and Surgical Appliances.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Observations and Experiments on Intestinal and Gastro-Intestinal Anastomosis.

AN ordinary meeting of this society was held on May 12th, the President, Dr. W. HOWSHIP DICKINSON, being in the chair.

Mr. WALTER EDMUNDS and Mr. C. A. BALLANCE communicated a paper entitled "Observations and Experiments on Intestinal and Gastro-Intestinal Anastomosis." The object of the experiments was to determine the best method of uniting either bowel to bowel or bowel to stomach. The experiments were made on dogs. 1. Intestinal anastomosis: There were three main methods of uniting two pieces of intestine—namely: (*a*) side-to-side; (*b*) end-to-end; and (*c*) end-to-side. Transverse sections of human small and large intestine and also of dog's intestine were examined microscopically and measured, and it was found that while the intestine of the dog was more muscular than that of man, the all-important submucous tissue was of about equal thickness in the small intestines of man and dog, and somewhat thicker in the large intestine of man. (*a*) Lateral anastomosis: Various methods were tried—namely, Senn's plates, Davis's plates, Littlewood's plates, Mayo Robson's bobbin, Murphy's button, and Halsted's method of suturing. In the case of Senn's plates, Mayo Robson's bobbin, and Halsted's operations the animals did well; with Davis's plates and Littlewood's plates the experiments were not carried to completion. With Murphy's button the dog died from leakage because the button, which had been specially made for use in dogs from actual measurement, was very slightly too large for the dog in question; this, therefore, did not tell much against the button, but it indicated a difficulty that might arise in operations on man. (*b*) End-to-end junction. Of these methods there were tried Paul's tube, Jessett's tubes, and pure suturing both with Czerny-Lembert sutures and by Maunsell's method. The five cases done by the Czerny-Lembert sutures and the two by Maunsell's operation were all successful. By the former method a circular ridge was formed round the interior of the bowel which acted as a diaphragm and contracted the lumen. This circular ridge was absent after Maunsell's operation, but a longitudinal ridge was present at the site of the longitudinal incision, which did no harm. (*c*) Implantation of one intestine into another vertically. The two cases in which this was done (both by pure suturing) were successful. The conclusions arrived at were—(1) for lateral anastomosis Halsted's operation was best: a needle should be threaded at each end of each suture, the needles then had only to be passed in one direction; (2) for end-to-end suturing the most perfect result was obtained by Maunsell's operation, but the conditions would not always allow of its performance; and (3) for certain cases implantation was indicated. There were three main conditions for which these operations were required—namely, artificial anus from any cause, gangrenous hernia, and malignant disease of intestine. The enterotome appeared to have fallen into disuse in the treatment of artificial anus and the extra-peritoneal operation was only applicable to certain cases; the intra-peritoneal operation must therefore be used for the majority. This could be performed either by an end-to-end junction or by implantation or by lateral openings after inverting and closing the open ends. The last was considered the easiest and safest proceeding, especially if the surgeon had not much experience in intestinal surgery; and of the methods of effecting it Halsted's operation was preferred to Senn's. For end-to-end anastomosis (which was the ideal operation) Maunsell's operation was preferred to all those in which recourse was had to mechanical aids, whether of decalcified bone or of metal. The treatment of intussusception, gangrenous hernia, and malignant disease of the bowel was discussed; in the last the new growth should, if possible, be excised at the primary operation. Whether or not an attempt at reunion or anastomosis should now be made depended mainly on whether there was any chronic obstruction or not; if there was any to speak of the reunion shou'd be postponed, because the passage of pent-up

fæces and the muscular action which this required were unfavourable to surgical repair. 2. Gastro-enterostomy: Operations were performed by pure suturing (Halsted's operation) and also by Paul's method with ivory rings. Both these methods were successful; their relative merits were discussed. 3. Physiological observations: (*a*) In lateral anastomosis the blind ends became shorter and probably would in time entirely disappear; the lateral opening gradually ceased to be lateral and tended to come more and more in the natural direction of the bowel. (*b*) In short-circuiting experiments the partially excluded portion, although not in any way occluded, became shorter and smaller. These short-circuiting experiments suggested a treatment for chronic volvulus; a lateral anastomosis would probably be more satisfactory than an artificial anus, and safer than total excision of the volvulus with reunion of the bowel. (*c*) In implantation experiments it made a difference whether the end of the upper bowel was implanted into the side of the lower or the reverse. In the former the blind end was small because the direction of its natural peristalsis was to expel its contents; in the latter case the cæcum was enlarged for the opposite reason. (*d*) In reversal experiments a length of intestine was completely turned round; the animals lived; the reversed portion diminished in length; there appeared to be some difficulty in the chyme entering the first part of the reversed portion; but the chyme once having entered it seemed to have passed along satisfactorily in the direction opposite to the original peristalsis. (*e*) Certain changes occurred in the mucous membrane in these experiments; above the seat of reunion the valvulæ conniventes disappeared for a time, possibly as the result of pressure. The paper was illustrated by numerous drawings.

The PRESIDENT observed that he had noticed the extraordinary healing powers of the intestine. In one case, probably of intussusception, a great length of bowel came away and the patient recovered. When a post-mortem examination was made some years later it was impossible to see which portion of the gut had separated.

Mr. GREIG SMITH (Bristol) said that he considered there had been no more valuable communication than the one before them made to the profession since Senn's work was first published. One important conclusion to which the writers had come was that it was best to avoid apparatus and he himself, from a different point of view, had arrived at the same conclusion. He based his opinion upon recent statistics which on this point were quite convincing. He considered the Halsted suture incomparably the best, as no infolding was necessary and it possessed great holding power. There was always a tendency for an anastomosis to contract or narrow, and no bobbin, plate, or button gave a sufficiently large opening, but by Halsted's method a very large opening could be obtained. He was convinced from a fairly large experience that resection of intestine for the closure of artificial anus was not now necessary. A sufficiently large external opening should be made through the skin muscles and fascia and then the peritoneum with its fatty layer should be left covering the bowel, which should be delivered through the wound with the handkerchief of unopened peritoneum attached to it. In this way the opening in the bowel could be closed without opening the peritoneum. For tumours of the intestine he preferred an operation of two stages, first delivering the tumour and fixing it out with a skewer and performing enterotomy and then in the second stage resecting the portion of intestine with the tumour. This procedure was troublesome to the surgeon, but had this peculiarity, that the patients all got well. Murphy's button was a marvel of ingenuity. It was said to produce what was euphemistically called pressure atrophy: this latter appeared to him to be very closely allied to gangrene. In two cases where Murphy's button was used he had seen alarming symptoms appear on the third or fourth day suggestive of gangrene of the bowel.

Mr. HARRISON CRIPPS, on the subject of bobbins and buttons as against fingers, repeated some experiences which he had related at the summer meeting of the British Medical Association. Of four fatal cases after the use of Murphy's button two died from causes unconnected with the operation, while the other two died from the button itself. In one the button has passed six inches below the junction and had ulcerated into the peritoneal cavity; in the other the button, which was still *in situ*, was probably too large, for it had caused gangrene of the bowel for an inch and a half on each side of it. He had found end-to-end approximation with Lembert's sutures the best. Of five cases four had recovered, and in the fatal one a double anastomosis had to be performed. He agreed with the last speaker that with apparatus it was impossible to make an opening sufficiently large to allow for subsequent contraction. In conclusion, he alluded to a successful case of gastro-jejunostomy by means of Murphy's button which had recently come under his notice. In using Lembert's sutures he applied them at a little more than one-eighth of an inch from the margin of the bowel, and this, he thought, prevented the infolding which had been illustrated.

Mr. LEONARD BIDWELL mentioned that a temporary fæcal fistula had occurred in each of three cases of Maunsell's operation which he had seen. He asked if Mr. Edmunds and Mr. Ballance had used a second row of sutures in the cases of Maunsell's operation done on dogs. In two cases of gastro-jejunostomy in which Mayo Robson's bobbin had been used there was after-obstruction due to the opposite wall of the jejunum occluding the lumen of the bobbin.

Mr. BRYANT remarked on the much greater thickness of the walls of the intestines in dogs; and a great deal of the ridge or diaphragm which was found after the Lembert suture was, he thought, due to this; one should be, therefore, very careful in applying these results to the human being. Unquestionably in some cases artificial appliances helped the surgeon very much. In one case he would have been unable to have completed a gastro-jejunostomy if he had not had a Murphy's button handy; but in that particular case on the fourteenth day something gave way and the patient died. At the necropsy it was found that the button had not come away and the junction was leaking at the upper edge.

Mr. EDMUNDS, in reply, said it was only because the end-to-end method of suture had proved so unsuccessful that other measures had been invented. The lateral anastomosis by Halsted's method was the best.

Mr. BALLANCE, in reply, said that they were agreed that the fingers were the best form of apparatus to use. In these cases the stitches were not placed far away from the ends of the bowel, and the same ridge occurred also in human intestine after the Lembert suture. They had also met with obstruction of the lumen of the bobbin from approximation of the side of the bowel.

MEDICAL SOCIETY OF LONDON.

General Meeting.—Election of Officers and Council.—The Connexion of Auto-toxis with Certain Common Forms of Insanity.

A GENERAL meeting of this society was held on May 11th, the President, Sir J. CRICHTON BROWNE, being in the chair.

The report of the council was read. It stated that 774 Fellows formed the membership, that the new laws had worked smoothly, and that the finance of the society was now fixed on a firm basis. The library committee reported that progress had been made in the cataloguing of the ancient books, and the house and finance committee stated that the property of the society was in thorough order and repair. A cordial tribute was paid to the energy and ability with which Mr. Hall, the resident librarian, had discharged his numerous duties during the year.

On the ballot being declared it was found that the following gentlemen had been elected to serve as officers and council during the ensuing year:—President: Reginald Harrison. Vice-Presidents: John C. Thorowgood, M.D., Charles B. Lockwood, Constantine Holman, M.D., and A. Pearce Gould. Treasurer: David H. Goodsall. Librarian: William Henry Allchin, M.D. Honorary Secretaries: George R. Turner and Robert Maguire, M.D. Honorary Secretary for Foreign Correspondence: Alban H. G. Doran. Council: John Anderson, M.D., C.I.E., Howard Barrett, William H. Battle, Frederick L. Benham, M.D., Robert L. Bowles, M.D., J. Mitchell Bruce, M.D., Henry H. Clutton, Sidney Coupland, M.D., Sir J. Crichton-Browne, M.D., F.R.S., Sir Dyce Duckworth, M.D., F. de Havilland Hall, M.D., Henry E. Juler, Norman Kerr, M.D., Jonathan F. C. H. Macready, Edward J. Nix, M.D., James W. J. Oswald, M.D., Heinrich Port, M.D., Amand Routh, M.D., Joseph White, and Arthur K. Willis.

At the ordinary meeting subsequently held a paper was

read by Dr. ALLAN MCLANE HAMILTON of New York, Corresponding Fellow of the Society, on the Connexion of Auto-toxis with Certain Common Forms of Insanity. The following is an abstract of this interesting communication. Dr. Hamilton said that until quite recently the therapeutics of mental disease did not appear to have been seriously influenced by the important researches that had been made during the last decade as far as deranged metabolism was concerned. He had been impressed with the somatic origin of various psychoses, especially those first classified and defined by Kraft-Ebing as acquired and by others ascribed to certain epochs, and he had looked for some more direct and reasonable cause than those ordinarily alleged to exist, reaching the conclusion that in many instances the existence of defective oxidation would explain the clinical features of numerous insanities formerly roughly classified with regard to their mental characteristics as mania, melancholia, and dementia, or still further particularised by names which defined their periodicity or the crisis at which they appeared or the element of hereditary predisposition, although in a few exceptions—notably, hepatic and rheumatismal insanities—the somatic element had been recognised. His desire for more exact knowledge in regard to the pathology and etiology of such every-day disorders as acute mania or melancholy was stimulated by the experience common to most, that where psychic causes existed not only the mental but the physical disturbance was usually quite out of proportion to any cerebral shock or demand upon the brain. It seemed to him that there must be something beneath this, something which had been simply lighted up or induced by the preparatory condition into which perhaps hereditary influences entered to some extent or not at all. With this end in view he had made a series of investigations, the results of which had been based upon experiments on animals and clinical observations conducted in the hospitals and asylums with which he was connected and elsewhere. More than fifty cases of insanity had been observed, which included examples of acute and chronic melancholia and mania; simple delusional insanities, primal and terminal; dementias; paralytic dementias; periodic, puerperal, and traumatic insanities; and the alcoholic and drug psychoses. The variation of the urine and fæces were noted. The experiments were undertaken to determine first whether there was any specific or noso-toxicity of the urine of the insane, and if so its nature; next to discover how important and general was the theory of uric acid poisoning; and, again, whether mental disorders were produced and modified by an autotoxæmia, whether the offending substances were the leucomaines or the intrinsic products of putrescence in the intestines. With regard to the existence of noso-toxosis observations on six patients proved negative and in rabbits the results were neither constant nor characteristic. The resulting effect seemed to depend upon the increased specific gravity of the urine and on the evidences of intestinal disorders and malnutrition. The urine of the paretic was always exceedingly toxic which property was possessed by that of the periodic patient whose urine showed a large amount of indican, while in only one of the other cases of mania in which the specific gravity of the urine was high was any result obtained by the injection. The only interesting psychic manifestation in rabbits which had received the injection of urine from a tabetic patient was a curious condition which led him to believe that hallucinations of vision existed. In respect of the influence of uric acid poisoning he was convinced that it had not as much to do with the genesis of mental disease as has been claimed for it. At his request Dr. E. E. Smith of New York prepared a quantity of hypoxanthin and with this was conducted a series of experiments on rabbits and monkeys. In only one subject were any effects produced. This monkey within five minutes manifested excitement, became restless, its ears became exceedingly congested, and its reflexes were affected by the slightest tap. After a time the irritability was followed by a period of apathy, its pupils were dilated, and the pupillary reflex was lost. These effects passed off in about an hour. It would appear that the intestinal toxalbumins had more to do with the production of disturbances of the nervous system than the leucomaines, which, however, had an effect, though not a marked one. A study of his cases unquestionably bore out the assumption that disturbances of the gastro-intestinal tract were attended by bacterial necrosis and the introduction into the general circulation of certain very virulent toxic agents whose effects were expended mainly upon the nervous system. A sudden and rapid development of incoherence, with mal-assimilation, highly-coloured urine, and delusions that were unsystematised clearly suggested an inquiry into the condition of the organs of digestion, and the first step should be a complete examination of the urine and fæces. It would appear that the ratio of the sulphates between themselves and the urea and the presence of indican in considerable amount were indications of intestinal putrefaction, which no doubt not only influenced the course of various insanities, but that a large increase in the combined sulphates had much to do with the genesis of various psychoses. In his opinion the presence of indican in the urine of the insane had the most significance, for in nearly all the cases that were not simply evolutional it had been discovered in excessive quantities in connexion with the development or as a feature of an exacerbation of an existing mental disorder. An excessive amount might be taken to mean any amount that could be detected in the urine by Jaffe's test. In melancholia the amount of indican depended upon whether the disease was of the stuporous or agitated variety, the quantity not being nearly so great in the former. In such cases the blood corpuscles and hæmoglobin seemed to undergo a decided diminution, which had been observed in other conditions in which anæmia existed in association with the increase in the amount of the combined sulphates and the presence of large quantities of indigo blue. The variations in the hæmoglobin and red corpuscles were closely associated with the absorption of toxic substances, the extent of which was announced by the increase of the combined sulphates, while the physical appearances were those of malnutrition. By far the most suggestive cases in which auto-toxis from intestinal disorder played a part were those of acute excitement, especially where there was rapidly developing incoherence and confusion. The more sudden and active the manifestations when unsystematic delusions or hallucinations were expressed the more positive were the indications of auto-toxis. He referred to the case of a woman aged thirty-seven who underwent an operation for the removal of a uterine fibroid, on the day following which she became restless and her temperature rose to 103° F. She had signs of gastro-intestinal disturbance and developed delusions and terrifying hallucinations of a persecutory nature, with broken and uneasy sleep. Her urine had a high specific gravity (1025); there was no albumin or sugar. The intestinal disturbance continued and was very general. Her incoherence almost amounted to delirium and she was greatly excited and restless. The urine showed a moderately large amount of indican with a lowered ratio of pre-formed and combined sulphates, and the urea was reduced to 11·81 grammes in the twenty-four hours. The administration of naphthaline, preceded by calomel and soda, determined a marked improvement in the mental symptoms, and the urine and stools returned to normal. In another case, that of a young married woman, examinations of the urine and excreta showed a very decided disturbance of gastric and intestinal digestion, and her general symptoms kept pace with the variations in these processes. The regulation of the diet, excluding nitrogenous substances, and thorough intestinal disinfection, together with the administration at regular intervals of calomel purges and a preparation of the red marrow of the small bones of the calf, brought about an almost immediately good result. Undoubtedly many puerperal insanities, especially those of the maniacal variety, were due to fæcal accumulation. Alcoholic insanities as well as other forms, whether acute or chronic variations prevailed, must, he was convinced, be studied with regard to the condition of the intestines. The insanity developing after very acute diseases, especially influenza, was probably primarily dependent upon the intestinal congestion and derangement of the mucous membrane, which was a part of the general disorder elsewhere, though in typhoid fever, where specific intestinal regions were attacked, there was apparently no undue amount of indican in the urine. The practical management of these cases not only included the provision of an absolutely suitable diet, but the use of antiseptics and mechanical means for the purpose of cleansing the gastric tract. It had been shown that the lower bowel was usually the seat of infection; hence the necessity of thoroughly washing out from as high a point as possible, using a long rectal tube. After trying a variety of intestinal antiseptics he had arrived at the conclusion that there was no agent which approached salicylate of soda. In insanity of a toxic nature there was considerable destruction of hæmoglobin and a reduction in the number of red corpuscles. He had had the

best results with a combination which was a rapid producer of nuclein, consisting of a mixture of a glycerine of the red marrow of small bones with bullock's blood. He formulated the following conclusions: (1) Urines rich in indican contained very little or no preformed sulphuric acid and were toxic; (2) when the sulphate ratio was materially changed it probably indicated auto-toxis in connexion with an increase in the amount of combined or ethereal sulphates; (3) such indications were generally found with acute insanities in which rapidly developing symptoms occurred; (4) fugaceous and changing illusions and hallucinations, unsystematised delusion, confusion, and verbigeration in connexion with insomnia, pallor, intestinal indigestion, constipation, and rapid exhaustion were due to auto-toxis; (5) paranoic states, or those in which concepts were the features, chronic stuporous conditions, and certain forms of dementia had little to do with the formation of intestinal products of putrefaction; (6) various post-febrile, traumatic, alcoholic, or drug insanities were those in which auto-toxis was most constant; (7) the variations in the excretion of combined sulphates kept pace with the changes in the progress of an established insanity, epileptiform attacks being directly connected with putrefactive processes; and (8) the most successful treatment consisted in lavage, intestinal douches, gastric and intestinal antisepsis by means of hydrochloric acid, borax, salicylate of soda, charcoal, guaiacol, or naphthalin in small and repeated doses, and the administration of a combination of the red marrow from the small bones, blood, and glycerine.

The PRESIDENT said that he welcomed Dr. Hamilton, in the name of the society, as a distinguished representative of American medical science, and he referred to the numerous and valuable contributions which he had made on the subject of mental diseases. His able, suggestive, and ingenious paper opened up much new ground, although most of it was of a speculative nature. In 1880 Lauder Brunton had pointed out the resemblance between the languor and dizziness of indigestion and the symptoms of curari poisoning, and had suggested that the symptoms of indigestion might be due to the absorption of peptones or of ptomaines from the intestine. They had only to suppose an excessive absorption of these substances or an imperfect destruction of them by the liver and they might arrive at the realisation of a condition tantamount to delirium with stupor or with simple dementia. These substances were present in great excess in intestinal catarrh and accounted for the melancholia present in that condition. The symptoms of these disorders yielded readily to suitable treatment, such as that in vogue at Marienbad or Carlsbad. It had been shown that an enormous quantity of fungi flourished in fæcal matter and that many varieties of fungi were only found in the fæces of certain animals. There were seventy varieties which were peculiar to the horse, thirty to the dog, twenty-eight to birds, and twenty-one to man. Any change in the quality of the fæces or of their environment might lead to the formation of an excess of poisonous products by certain of these fungi. Mosso had shown that a poison developed in nervous matter after death, and it was a question whether the brain could not form poison in itself during life. The epileptiform seizures seen in the later stages of general paralysis might be due to incipient decomposition of albuminous substances, and so an auto-toxis might be produced. Added to this it was well known that washing out the lower bowel alleviated these seizures. It appeared to him that the subject at present was one more for the laboratory than the wards, but the contents of the paper were worthy of the most careful study.

Dr. A. HAIG directed his remarks to the connexion which he believed to exist between the amount of uric acid in the urine and depression or melancholia. From his point of view the excess of uric acid in the blood caused the intestinal putrefaction, which he thus regarded as a secondary and not a primary factor. Calomel was an efficient agent in clearing the blood of uric acid and salicylate of soda did the same. Patients could be cured by altering the diet alone without recourse being had to intestinal antiseptics. The high blood pressure and the scanty urine present in these cases were both owing to the presence of uric acid in the blood.

Dr. W. L. ANDRIEZEN said that he agreed both clinically and pathologically with the conclusions of Dr. Hamilton. There was no doubt that such a common matter as a delay of the action of the bowels would produce headache, dulness, and depression of spirits in many people otherwise normal. He found this very difficult to understand on Dr. Haig's hypothesis; it was due rather to products directly absorbed from the alimentary canal. Leaving the lower bowel out of consideration and taking the stomach itself a great amount of poison might be produced in that viscus in cases of gastric catarrh. In certain cases of hysteria with dilated stomach, if the stomach were washed out and naphthalin in small doses were given a considerable and rapid improvement would usually follow. In hypochondriacal melancholia similar changes occurred, though longer drawn out. Those cases as a rule did not show hereditary taint, and that, so far as it went, was in favour of a local causation. In anæmia and chlorosis also depression occurred. He could not agree with Dr. Hamilton that all the subacute confusional manias of rapid development were of auto-toxic origin. He had examined instances of the insanities of alcoholism, general paralysis, and epilepsy in which from time to time mild attacks of subacute delirium occurred, accompanied by a slight rise of temperature and a furred tongue. In these cases a considerable excess of indican would be found in the urine at this particular stage. In such instances some might think that the primary cause of the transient disturbance was in the brain, and that the intestinal disturbance was a secondary result. He did not agree with that because of the immediate good result which followed the use of intestinal antiseptics. He considered that sufficient attention had not been paid to a group of insanities like those associated with myxœdema and acromegaly. In the insanity of myxœdema it had been found that treatment by thyroid extract caused a great improvement in the mental as well as in the bodily condition, and the extract appeared to exert a trophic effect upon the red corpuscles. The insanity of acromegaly was associated with mental slowness and depression with subnormal temperature, and in these the administration of pituitary extract did good. The question of the formation of alkaloids in the central nervous system must not be lost sight of; the cerebral lymphatic system was exceedingly complex, and there were marked perivascular changes in many nervous diseases, such as in alcoholic insanity; in these it was probable that the nerve cells were poisoned by retained lymph.

Dr. C. J. HARE said that he could not help being struck by the amount of knowledge which the ancients possessed, and the terms melancholia and hypochondriasis bore witness to the fact that they were alive to the idea of auto-toxis. It was certain that self-poisoning acted as a cause of many diseases other than mental ones.

Dr. THEODORE WILLIAMS said that if auto-toxis from intestinal accumulation were a common cause of insanity then the French nation should suffer much more than the English, for they were notoriously careless as to alvine evacuation.

Dr. DAVID BOWER said that he thought that intestinal trouble was more frequently the result of nervous disease than the cause. He regarded the suggestions for treatment as valuable. In the matter of intestinal antisepsis he thought it more rational to treat the matter as one of drains, in which one would remove the cause rather than conceal the smells.

Dr. HAMILTON, in reply, said he regarded his paper as a suggestive one. He believed that even gout had been given too much credit for its share in the causation of insanity. He believed also that in the majority of cases of acute mania some explanation might be found in the intestines if it were sought for.

CLINICAL SOCIETY OF LONDON.

Case of Malingering in a Boy aged Eleven.—Three Cases of Laryngectomy.—Case illustrating a Condition of Partial Congenital Dislocation of both Hip-joints Forwards and Upwards.—Fracture of the Neck of the Femur in a Young Subject resulting from Dry Caries of the Bone.—Case of Division and Immediate Suture of the Left Vagus.

AN ordinary meeting of this society was held on May 8th, the President, Dr. BUZZARD, being in the chair.

Mr. LEOPOLD HUDSON related a case of Malingering in a Boy aged Eleven. He showed a specimen of urine coloured to imitate hæmaturia which was brought to the Hospital for Sick Children, Great Ormond street, on Feb. 17th, 1896, together with the boy, who was said to have passed it. The patient had been sent home from a boarding school on

account of hæmaturia. He remained at home for seven weeks, passing normal urine, but for the week previous to examination he was said to have passed blood in his urine three times daily. Examination of the urine showed absence of blood and albumin, it was acid and of normal specific gravity. Dr. Archibald Garrod made a spectroscopic examination, which revealed absence of the hæmoglobin band. Urine drawn off by catheter presented normal properties. Upon being pressed the boy confessed that he had added red sweets (jargonelle pear drops) to his urine. He had done this in order to be sent home from school, where he said he had been made to clean steps in cold weather without shoes or stockings. His story, however, was found to be false, for later his aunt brought to the hospital a piece of rag dyed with Turkey red dye which had evidently been used to produce the colouration.

Dr. E. WARD (Leeds) described three cases of Laryngectomy. He said that the main feature of the operation, which he had now practised in three cases, was the complete shutting off of the wound from the mucous canals which opened into it. This method in favourable cases resulted in union by first intention throughout the whole extent of the wound. No preliminary tracheotomy was required where it had not already been rendered necessary by urgent dyspnœa. The first part of the operation was carried out on the ordinary lines, the larynx being in preference separated by division of the crico-tracheal membrane and dissection from below upwards, enucleation of the upper part being thus facilitated. In cases of intrinsic disease the opening into the pharynx was not more than a small vertical slit. After the larynx had been removed a large tube was passed from the mouth into the stomach, and the cut edges of the pharynx were carefully brought together over it by closely-set sutures of fine silk, the pharyngeal wound being entirely closed. Then two half-discs of skin were cut out of the edge of the flaps opposite to the tracheal aperture, which was closely stitched to the circular opening thus made, and the skin wound was closed by suture throughout. Drainage-tubes were inserted at each end of the cross incision at the upper part. By this method of closing the wound the trachea and pharynx were completely shut out from it and the trachea was so held open that no tracheotomy tube was required. The œsophageal tube was removed or left *in situ* for feeding, according to the requirements of the case and the difficulty with which it was passed. Case 1.—A man aged sixty-four came with extensive disease of the larynx causing great suffering, dyspnœa, &c., and he was operated on on June 26th, 1893. He had remained well up to the present time and had never worn a tracheotomy tube. The growth proved to be a squamous-celled epithelioma. He was able to speak in a whisper. Case 2.—A female child aged two was admitted on June 2nd, 1894, with urgent dyspnœa for which tracheotomy was at once performed with great relief. The tube was removed on July 3rd, but had to be replaced on the 10th. In October thyrotomy was performed and the larynx was found stuffed with a soft papillomatous growth destroying all its anatomical features. This was scraped and dissected out. She remained in a very critical state for some time, though in November she had much improved. On Jan. 9th, 1895, she was readmitted extremely ill, the growth fungating so luxuriantly that it was sprouting through the tube and blocking it. He performed laryngectomy on Jan. 25th. There was some difficulty in closing the upper part of the pharyngeal wound owing to the smallness of the parts and their deep recession under the chin. The child was quite intractable and refused food, and she rejected what food was introduced by means of the œsophageal tube. She died in a state of collapse sixty hours after the operation. Post mortem the operation wound was found to be in an entirely satisfactory condition and the larynx was again crammed with papilloma. Case 3.—A man aged forty-two was admitted on Aug. 8th, 1895, with dyspnœa and dysphagia of five months' standing. He was extremely ill, with orthopnœa and marked stridor and lividity. There was much swelling of the ventricular bands, with general tumefaction of the whole of the parts, including the epiglottis, the vocal cords being quite hidden. No growth or ulceration could be seen anywhere. On Jan. 21st tracheotomy had to be performed. On Sept. 1st he was unable to breathe, the tracheotomy opening being plugged. The diagnosis was confirmed by a preliminary thyrotomy and Dr. Ward then performed laryngectomy. On the 17th it became evident that one or two of the sutures at the lower part of the pharynx had given way, but by the 21st the regurgitation of food had ceased. The patient's recovery was subsequently uneventful. Dr. Ward claimed for this operation (1) that it would reduce the mortality of the operation itself; (2) that it would considerably shorten the period of healing and convalescence; (3) that it would add immeasurably to the comfort of patients both during convalescence and after recovery; and (4) that it would justify attempts at radical treatment in some cases in which this was at present considered inadmissible.—Dr. FELIX SEMON said he did not consider laryngectomy an unjustifiable operation, but the whole case should be fairly put before the patient and the decision left with him. He protested strongly against the performance of laryngectomy for papilloma of the larynx, an affection which would yield to milder methods of treatment—namely, prophylactic tracheotomy with removal of exuberant papillomatous growth by curette. This would have enabled the child to live towards adolescence. When under partial chloroform narcosis and local cocainisation the growths could be removed by the intra-laryngeal route.—Mr. ARBUTHNOT LANE said that with regard to the first case he had adopted a similar procedure and found it useful—namely, turning the trachea forwards to an opening in the skin and shutting off the pharynx. In a case of papilloma of the larynx in a child aged seven he split the larynx up and removed the warts. There was an exuberant recurrence soon afterwards, and he then gave arsenic internally and pressed it. When he had got up to seven minims of Fowler's solution three times daily the growths withered and the patient got well very rapidly.—Dr. WARD, in reply, said that he was disinclined to attempt complete laryngectomy again in so young a child. He knew of three cases of papilloma of the larynx where tracheotomy with curetting and other local measures had been performed, and at the present time the larynx in each was absolutely blocked up with growth.

Mr. W. ARBUTHNOT LANE related a case illustrating a condition of Partial Congenital Dislocation of Both Hip-joints Forwards and Upwards. He showed a child on whom he had operated successfully for this deformity, with which he was familiar in a much slighter degree and often as a unilateral condition, but he had never before seen it in the same marked degree as presented by this patient. The deformity consisted in a varying degree of outward rotation of the legs, due apparently to a slight forward and upward displacement of the hip-joint from its normal position. In this case when the child lay on his back the feet rested by their outer margins on the floor. On attempting to rotate the thighs inwards it was only possible to do so till the inner margins of the feet became parallel to one another. The same was true of the child in the erect posture. During walking the legs were flung outwards and only very slightly forwards, so that progress was very slow and ungainly. Mr. Lane divided each femur at the junction of the middle and lower third, and after rotating the lower fragment inwards on the upper through an angle of 99° or more he secured them together with wire. The result, as exhibited by the patient, both as regarded locomotion and appearance, was very good. Mr. Lane pointed out that this partial displacement of the acetabulum, though produced during intra-uterine life, differed clinically from the cases of congenital displacement of the hip upwards and forwards where the head of the femur articulated with a new acetabular cavity, the old one losing its form rapidly. He ascribed the cause in both conditions to pressure, in one case resulting in a displacement of the head of the femur, in the other to a displacement of the hip-joint to a slight degree.

Mr. RAYMOND JOHNSON described a case of Fracture of the Neck of the Femur in a young subject resulting from dry caries of the bone. The patient, a boy aged seventeen, fell whilst skating, and presented all the signs of a fracture of the neck of the left femur. It was noticeable that during several weeks before the accident the boy had limped slightly and that his younger sister was the subject of early hip-joint disease. After a period of nearly four months' fixation there was no evidence of repair. Operation was therefore undertaken with the object of either pegging the fracture or excising the separated head according to circumstances. After opening the upper and posterior part of the capsule a transverse fracture through the middle of the neck of the bone was displayed, and as the bone showed evidence of somewhat extensive superficial caries the head of the femur was removed. Two and a half years after the operation the patient was walking fairly

satisfactorily; the shortening of the limb amounted to two and a half inches. After describing the naked-eye and microscopic appearances of the bone it was concluded that these were antecedent to and not the result of the fracture, and that they were of the nature of dry tuberculous caries. The chief interest of the case lay in the fact that such a degree of bone destruction should occur with so little impairment of function that the boy was able to skate without discomfort although the neck of his left femur was extensively carious. It was insisted that if in a young subject after an injury to the hip, and the symptoms suggested intracapsular fracture of the neck of the femur, the possibility of pre-existing pathological changes in the bone must carefully be borne in mind, even though the clinical evidence of such might be very imperfect.

Mr. MAKINS brought forward a case of Removal of a Secondary Epitheliomatous Tumour from the Neck, in which operation the left vagus nerve was divided just above the centre of its cervical portion and immediately sutured, with no obvious results either immediate or remote beyond the paralysis of the muscles supplied by the recurrent laryngeal branch. With regard to the laryngeal paralysis, the quality of the voice rapidly improved, and two months later the following report was made by Dr. Semon. The left vocal cord stood quite fixed near the middle line and the right joined it in phonation and the voice was almost normal, occasionally slightly hoarse and a little high-pitched. Apparently, after suture of the nerve the adductor fibres had partially recovered but not the abductor. After the partial recovery the adductor fibres had on phonation moved the vocal cord into the phonatory position, and in this position a gradual paralytic contraction had taken place, fixing the cord where it was now seen. It was allowed that the functional activity of the vagus in this case might have been lowered by continuous pressure by the tumour, but it was claimed that the case supported the opinion lately expressed by Boswell Park as to the comparative safety of dividing one vagus if necessary, and also offered some evidence as to the possible recovery of function if immediate suture were performed.—Dr. FELIX SEMON said that the partial recovery of function which had occurred was interesting. In cases in which paralysis of the recurrent laryngeal nerve supervened the abductor fibres suffered first and the present case acted as a kind of corollary to this, showing, as it did, that after complete division of the nerve the adductors recovered first. He referred to the case of a singer who acquired syphilis and a tumour formed in the neck which pressed upon the recurrent laryngeal nerve, inducing complete paralysis. Under appropriate treatment the adductors recovered, but the abductors remained paralysed. The cords at first assumed a cadaveric position, but later, owing to contracture of the unopposed adductor muscles, the affected cord became fixed in the middle line.

OBSTETRICAL SOCIETY OF LONDON.

Adjourned Discussion on Deciduoma Malignum.—Exhibition of Specimens.

AN ordinary meeting of this society was held on May 6th, Dr. CHAMPNEYS, President, being in the chair.

Dr. KANTHACK, at the request of the President, resumed the discussion. In all essential points he agreed with Dr. Eden's criticism. It was necessary to approach a question like this from the point of view not of the specialist but of the general pathologist. It was evident that the "deciduoma" is a malignant tumour. All are agreed upon that point; but some traced its origin to decidual cells, others to syncytial masses, and at least one other authority even to the connective tissue of the chorionic villi. On analysing the published accounts it would be found that, according to their nature, these deciduomas were either sarcomas, in which case they were said to have developed from the decidual cells, or carcinomas owing their origin to the syncytium. It was evident, then, that "deciduoma," apart from its hybrid nature, was a bad term, because it was not inclusive. He wished to suggest two other names to cover the carcinomas—viz., "syncytioma" or "trophoblastoma." He himself firmly believed that the deciduoma was a typical sarcoma, characterised by features common to many forms of sarcoma. It was certain that most of the deciduomas described or shown were sarcomas. He agreed with Dr. Eden that Dr. Whitridge Williams's specimen was an undoubted sarcoma and certainly not a carcinoma. Professor Spencer had described his case as a deciduoma consisting chiefly of syncytial masses, and he had laid great stress on the growth in the lungs. The latter was secondary to the uterine growth and certainly a sarcoma, and not even an extraordinary sarcoma. The uterine growths were curious, but presented nothing incompatible with sarcomas met with in other regions of the body. Mr. Rutherford Morison's case no one could consider anything else than a sarcoma, containing in certain situations large plasmodial cells (syncytial masses). Dr. Hebb's specimen, also, was acknowledged to be a sarcoma, the secondary growths in the lungs showing so-called syncytial masses. The plasmodial syncytial masses are said to be characterised by these three points: (*a*) absence of cell outline; (*b*) deeply staining nuclei; and (*c*) vacuolation. Now he (Dr. Kanthack) maintained that similar plasmodial masses formed by cell fusion occurred in many rapidly-growing sarcomas, and that it was illegitimate to argue from morphological analogy that these plasmodial masses are derived from syncytium. Some writers had described their specimens as sarcoma developed from decidual cells. The latter were connective tissue cells changed under the unknown proliferative stimulus of pregnancy. As Dr. Eden had well said, the decidual cell was not characteristic of pregnancy. It was necessary before calling a large-celled sarcoma a deciduoma that (1) pregnancy must be rigorously proved to have existed (this condition had remained unfulfilled in many cases); and (2) the pregnancy must have existed before the sarcoma appeared.

Dr. CLARENCE WEBSTER (Edinburgh), having expressed his pleasure at being able to attend the meeting, said that as he had seen no specimens of the so-called deciduoma malignum save those shown by Mr. Rutherford Morison and Dr. Spencer, he felt justified in limiting his remarks to certain points which he had noticed in his perusal of various published cases, referring in particular to some embryological considerations in which he was particularly interested. Like many others in this country he had been much surprised at the appearance of this new term. That the disease was of a malignant nature seemed evident; apart from the novelty of the name he did not think there was anything in the clinical symptoms which had not been before recognised in cases of primary malignant disease of the uterus. Nor was the connexion of malignancy with pregnancy or the puerperium anything unknown. The startling element in the new disease seemed to him to be in the pathology and etiology of the condition or rather in the discordant views expressed by writers. Thus the following statements are made as to the nature of the new growths—namely, that it is sarcomatous, that it is carcinomatous, and that it is made up of both sarcomatous and carcinomatous tissue. As to the tissue of origin of the new growth the following are mentioned: (1) maternal: epithelial elements of mucosa, connective tissue elements of mucosa, and muscle of uterine wall; (2) fœtal: epiblastic elements of villi, mesoblastic elements of villi, and combined epiblastic and mesoblastic elements of villi; and (3) maternal and fœtal elements combined. Taking together all the cases which have been published from the microscopical appearances described three distinct types are to be made out: (1) in some the tumour and metastases are composed of cells sarcomatous or carcinomatous in shape; (2) others are composed of cells as in No. 1 along with masses of plasmodial tissue like the syncytium found normally in connexion with the placenta; and (3) others are made up of the above constituents with the addition of villous structures exactly resembling the villi of the placenta as they are found normally or in the condition known as vesicular mole. The nature of the syncytium of pregnancy has been long discussed. Some state it to be formed from the epithelium of the uterine mucosa; others that it is a fœtal structure epiblastic in nature—the outermost layer, in fact, of the early ovum. The fœtal origin cannot now be denied. It has been clearly pointed out in different mammals, especially by Van Beneden and Hubrecht. The maternal origin of the syncytium was advocated in the days when there was no such careful technique in microtomy as is found at the present day. If it can be established that the syncytium found in connexion with these malignant growths is the same as that of pregnancy, and if it also be found in metastatic growths, it must be admitted that whatever be the origin of the other cells in the tumour the syncytial part is due to the malignant development of fœtal epiblast, parasitic on the uterine mucosa resulting from the product

of conception. However, another question is to be settled before such a conclusion is to be formed—viz., to what extent does plasmodial formation take place in connexion with the growth of sarcomata entirely unconnected with the influence of pregnancy? Dr. Kanthack states that this change is fairly common in sarcomata of different tissues of the body. This is an important point to establish in order to discredit a belief in the development of these tumours in the uterus from the syncytium of pregnancy.

Dr. W. E. FOTHERGILL (Manchester) said that most of the points in the pathology and literature of the subject on which he had any definite opinion had been referred to by Dr. Kanthack and Dr. Webster, with whom he completely agreed. He would like, however, to put in a broad and simple way the points in question. Of the twenty-eight or twenty-nine writers with whose work he was acquainted few agreed in opinion and still fewer used the same nomenclature. Some of them did not make it clear what they meant by cancer and sarcoma, and others did not even make any definite distinction between mother and fœtus. There are doubtless four tissues with which it is logically possible that the growths in question can arise—viz., from connective and epithelial tissue of the maternal decidua and from the epithelial and connective tissue of the chorion. Now malignant new growths arising from the decidual cells (connective tissue) are sarcomata and those arising from decidual epithelium are carcinomata (or epitheliomata or adenomata, as the case may be). Whether caused by pregnancy or any other circumstance most of the growths described are one or other of these or a mixture of both. There is no excuse for applying a new name to these, and the only result of their publication should be to attract attention to pregnancy as a factor somewhat overlooked in the causation of malignant change in the uterus. But if it can be proved that fœtal epithelium or epiblast can live and grow within the maternal tissues we doubtless have to do with a new pathological entity. Marchand raises hopes of a simplification when he says that all the forms recently described and variously named are derived from epithelium, but in another place plunges again into confusion by dividing this epithelium into two kinds, syncytium and the epiblast of the chorion. One observer only, Gottschalk, has stated that the fœtal connective tissue is concerned in the growths under discussion. The question at issue appears to be, Can fœtal epiblast, call it syncytium or what you will, form new growths in the uterus and produce metastatic growths elsewhere? At present there is no proof that this can occur. When it is found the new "chorionic carcinoma" will be welcomed, but not before. When it is recognised it certainly will not be under the deceptive and unnecessary misnomer "deciduoma malignum."

After a few remarks from Dr. LEWERS, Mr. BLAND SUTTON stated that his own views of this question were simple. He was of opinion that a deciduoma is a sarcoma arising in decidual tissue. Concerning other varieties supposed to originate in chorionic villi he preferred to maintain an attitude of active scepticism. Their occurrence was possible, but their existence had not as yet been satisfactorily demonstrated.

Mr. ALBAN DORAN maintained that Mr. Rutherford Morison's case was clearly an instance of the disease which the Germans term "deciduoma malignum," whatever the correct interpretation of that malady might be. Certain authorities seem assured that there was a true deciduoma malignum, but they had not calculated the chance of coincidence of simple sarcoma which occurred in young women with gestation. Yet Apfelstedt and Aschoff recently found vesicular mole tissue forming a secondary deposit in the labium three months after the expulsion of the mole from the uterus. Decidual tissue was hardly more complicated, its diffusion by metastasis was therefore conceivable. There had, on the other hand, been too much eagerness to make out decidual tissue in primary and secondary deposits. Thus, in the *Centralblatt für Gynäkologie* of May 2nd last two cases of deciduoma were reported. The patients were of the ages of thirty-eight and forty-two years respectively. Epithelioma was far more probable in both instances. The first case was described as epithelial cancer over twenty years ago, so that to re-classify it as a deciduoma was hardly scientific. In the second the uterus was removed nearly two years after the expulsion of a vesicular mole and there were no secondary deposits. The society could not admit that the existence of deciduoma malignum as distinct from sarcoma stimulated by gestation had been proved.

Dr. SPENCER thought that whether the disease belonged to the sarcomata or the carcinomata was a matter of slight importance; so also was the name by which it was designated. The really important question was whether they had to deal with an ordinary malignant growth in the uterus or whether they had to do with a malignant growth which developed from the products of conception (fœtal or maternal). He thought all the facts were in favour of this latter view.

Dr. EDEN said he was very glad to find that Dr. Kanthack and Dr. Webster shared the doubt he had expressed as to the identity of the plasmodial masses found in cases of deciduoma malignum with the placental syncytium. The question of identity depended upon one point—viz., whether the placental syncytium possessed any specific characters by which it could be distinguished from masses of nucleated protoplasm derived from different sources. He believed that it did not possess any such characters, and considered, therefore, that the plasmodial masses found in these growths could not be identified as syncytium merely from their microscopical appearances. If experience should prove that malignant growths consisting of proliferating placental villi may arise in the uterus and spread by the ordinary channels of metastasis, such tumours would form a distinct addition to pathology. It was obvious, however, that the term deciduoma malignum was quite an unsuitable designation for new growth composed of placental villi.

In closing the discussion the PRESIDENT did not doubt that the debate, which had brought much special experience tempered with general knowledge and a logical spirit to bear upon the subject, would prove useful. In reading the cases which had been reported he often wondered, as in the case of any other "new" disease, what such cases had been called before. He supposed, but was not sure, that most of them would have been regarded as forms of cancer or sarcoma. The conclusion of the debate seemed to be that the question is far from being settled and that it is yet too soon to add a new disease to the list.

The following specimens were exhibited:—

Dr. LEWERS: Two Uteri removed by Vaginal Hysterectomy for Cervical Cancer.

Mr. ALBAN DORAN: Cystic Myoma of the Uterus weighing over fifteen pounds.

Dr. ROBERT WISE: Placenta, Cord, Fœtus, and Membranes from Abortion of the Fifth Month.

Mr. MALCOLM: Two Solid Ovarian Tumours.

Dr. HORROCKS: Elastic Bags for Induction of Labour.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

The Treatment of Whooping-cough.—Some Effects of Chronic Nasal Obstruction.—Exhibition of Patient.

A MEETING of this society was held on May 1st, the President, Dr. SYMONS ECCLES, being in the chair.

Dr. S. BONTOR read a paper on the Treatment of Whooping-cough. He pointed out that the death-rate from the disease was nearly as great now as it was twenty years ago, and said that although the malady was supposed to have a microbic origin its treatment was not based on that supposition; he therefore suggested the free use of antiseptics, both internally and locally, during the first stage. He considered that the second stage was due to a neurosis produced by the products of the micro-organisms and thought that the treatment should be directed to reducing the number and severity of the spasms and to loosening the mucus in the larynx and trachea. He had found the best method to be the local application of a solution of menthol in liquid vaseline. He had treated forty cases, mostly severe, in this way, with only one death.—Mr. MAYO COLLIER stated that the appearances of the larynx in whooping-cough were simply those of intense vascularity and congestion. He found that the only certain and efficient method of examining the larynx was to apply a spray of menthol in parolleum in which ten grains to the ounce of cocaine had been added.—Dr. CAMPBELL POPE recommended a thorough application of menthol spray to the nasal fossæ and pharynx, since the mucus which was the exciting cause of the spasms was probably formed in the nasal cavities.—Dr. CHAPMAN remarked on the use of the inhalation of chloroform in checking the spasms.—Dr. BURRELL had found small doses of antimony and morphia successful both for ordinary catarrh and for whooping-cough.—Dr. ACHARD recommended the fumigation of the

room with tar vapour produced by introducing a red-hot poker into liquid tar.—Dr. DOBSON experienced great difficulty in diagnosing whooping-cough from ordinary catarrh in the first stage, but he found that great benefit was derived from a menthol and cocaine spray in the later stages.

Mr. MAYO COLLIER read a paper on Some Effects of Chronic Nasal Obstruction, illustrating its serious effects upon the growing skull, especially on the upper jaw. The inevitable effect of nasal obstruction was the production of a partial vacuum in the nasal chambers, whose walls in the young were unable to support the increase of atmospheric pressure and consequently collapsed. In this way he explained the high palates, irregular teeth, and approximated maxillary bones, and the secondary almost complete obliteration of the nasal cavities. He showed several casts of the jaws of such cases.—Dr. THUDICHUM did not think that the mechanical pressure of the air was sufficient to distort either the septum or the maxillary bones, and considered that the casts exhibited were taken from congenital malformations and that the patients had only just escaped being idiots. He pointed out that hypertrophy of the inferior turbinated bone was the most frequent cause of nasal obstruction and referred to the good effects following its removal.—Mr. MCADAM ECCLES remarked that though adenoid vegetations were so common in young subjects the cases of deformity of the superior maxilla were very uncommon.—Mr. BATTEN had noticed a peculiar form of myopia as a result of chronic nasal obstruction.—Dr. CAMPBELL POPE and Mr. YEARSLEY also made remarks.—Mr. MAYO COLLIER, in reply, stated that the subjects from whom the casts had been taken were in no way mentally deficient, and said that the condition had commenced about the age of puberty. He considered that adenoid vegetations could not cause any distortion of the jaw.

Mr. KEETLEY showed a girl on whom he had performed a temporary Colotomy for Tuberculous Ulceration of the Rectum. He described the method of closing the artificial anus.

PLYMOUTH MEDICAL SOCIETY.

Exhibition of Specimens.—Testamentary Capacity.

A MEETING of this society was held on April 11th, Dr. HINGSTON, President, being in the chair.

Mr. C. RUSSEL RENDLE demonstrated: 1. A condition of Osteoporosis in a Femur and Tibia removed by amputation. 2. A Thyroid Dermoid removed from the coccygeal region of an infant when three hours old. The child was born naturally; the mass, which weighed twenty-six ounces, was attached by a fibrous stalk to the coccyx and a broad base lightly connected to the surrounding parts.

Mr. WEBBER showed a Microscopic Section of Fibroma of the Testis enucleated by Mr. Woollcombe.

Dr. ALDRIDGE read a paper on Testamentary Capacity, which was fully discussed and proved to be of great practical help and utility.

Exhibition of Specimens.

The closing meeting of the winter session of the society was held on April 29th, Mr. J. H. S. MAY being in the chair.

Mr. MAY referred in feeling terms to the great loss the society had sustained by the death of Mr. W. Square, who had filled the presidential chair in 1895, and who, by geniality and goodness of heart, had gained the affection of all the members.—Dr. ALDRIDGE and Mr. C. E. RUSSEL RENDLE also spoke as to Mr. Square's worth and great kindness to all with whom he came in contact.

Mr. C. E. RUSSEL RENDLE showed Sections of the Tibia and Femur removed from a boy aged seven years during excision for tuberculous disease of the knee-joint. There was a focus of disease commencing in the inner tuberosity of the tibia invading the joint through the cartilage. The cartilages on the outer side of each bone were sound.

Mr. LUCY handed round the skiagraph of a Hand and Forearm taken on a Thomas's antihalation plate with a Newton's "focus tube" and one minute's exposure by Mr. Oakley. The trabeculæ of the bones were plainly defined, as was also silk stitching of the coat-sleeve.

Dr. PETHYBRIDGE showed Tube and Plate Cultures of various Micro-organisms from Sea-water and the Intestines of a Fish.

Mr. WEBBER exhibited a section of the Thyroid Dermoid alluded to above.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF STATE MEDICINE.

Domestic Disinfection.—Criminal Responsibility in the Insane.—Village Water-supplies in Ireland.—Parknasilla as a Winter and Spring Health Resort.

A MEETING of this section was held on April 17th, the President, Dr. J. M. REDMOND, being in the chair.

Mr. WALTER BERNARD read a paper on the Necessity for Isolation and Disinfection when Infectious Diseases were being Treated, and he submitted models of portable apparatus for domestic disinfection of articles by heat and fumigation. One was adapted for the sick room and the other was reserved for the overalls worn by the medical man and the nurse. The apparatus was six feet long and thirteen inches wide, and could be carried from house to house. The articles were exposed for a considerable time to the fumes of heated eucalyptus oil and carbolic acid. Mr. Bernard at the same time called attention to the erection of houses, through building societies and other agencies, on polluted subsoil consisting of rubbish and street sweepings. He also said that the people are encouraged by burial societies to make false returns of ages and state of health; and, what is worse, a stone in the sleeve is hidden for the medical man who will not in the death certificate shorten the duration of the illness, so as to make it correspond with the statement of the person insured.

Mr. CONOLLY NORMAN read a paper on Criminal Responsibility in the Insane, first reviewing the history of the law on this subject and tracing the stages by which it arrived at its present position. He then pointed out the injustice and absurdity of the supposed legal tests of responsibility as applied to the insane, since a strict application of the criteria of knowledge of the nature of the act done or of knowledge of right from wrong would lead to all the insane being held responsible, with the exception of low-class idiots and a few acute cases. At the same time, he deprecated anything like an attempt at present to substitute medical for legal definitions in this matter. The knowledge of insanity is still so limited that we cannot define its conditions, and to endeavour to define that which is indefinable is to risk repeating the mischief already done and laying down criteria the validity of which will soon be as disputable as that of the former ones. Owing to a variety of circumstances there is not much, if any, practical injustice done under the present state of the law, however unjustifiable it may be in theory.—Dr. BEWLEY was glad to hear that Mr. Norman could not suggest any definite line upon which the law should be amended and that it was a mistake to define insanity. A little insanity and a great deal of wickedness and a little wickedness and a great deal of insanity merge very much into one another. Medical men are not always the best judges of insanity. They are too apt to believe that criminals are to be treated medically and not punished.—Dr. MCWEENEY wished to know in what position with regard to sanity or insanity Mr. Norman would place habitual criminals who from their very earliest days have a tendency to the committal of crime. When a person comes up for the eleventh or twelfth time charged with robbery, &c., the question should be taken into account whether the power of self-control has become so lowered that it could be said to no longer exist. A considerable number of the criminal population belong to this class, and a very important question is what is to be done with these people. A vast amount of money has to be spent in keeping them from doing harm.—Mr. NORMAN, replying, said that he thought the question as to the insanity of a criminal should be decided by a jury. The chief cause of complaint against medical witnesses arose from the circumstance that one judge wanted nothing but facts and another wanted the witness's opinions. The law regarding a lunatic giving evidence was much the same as that regarding a lunatic making a will. He could give evidence if he understood the nature of an oath and if he had not delusions on the point at issue. He could make a will if his memory was sound and he did not suffer from delusions with reference to his relatives or others that would be benefited by the will.

Mr. EDGAR FLINN read two papers—one on Village Water Supplies in Ireland and the second on Parknasilla as a Winter and Spring Health Resort. In the former paper he laid stress on the difficulty there existed in procuring a really pure and wholesome drinking-water in the smaller Irish

villages and towns, most of the wells being shallow and liable to pollution from surface and drainage percolation. The contract for the sinking of wells was nearly always placed in the hands of totally inexperienced and incompetent persons, who happen to have friends on the rural sanitary authority, the result being that in the majority of the villages the quality of the water is defective, and in dry seasons the supply is scanty.

Reviews and Notices of Books.

Manual of Gynæcology. By HENRY T. BYFORD, M.D., Professor of Gynæcology and Clinical Gynæcology in the College of Physicians and Surgeons of Chicago, &c. Containing 234 Illustrations, many of which are original. Philadelphia: P. Blakiston, Son, and Co., 1012, Walnut-street. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1895. Price 10*s.* 6*d.*

THIS book has been written with the intention of providing the student with a Manual of Gynæcology sufficient for "study or reference in his college course as well as a guide to him during his first years of practice." The subject matter is divided into ten parts, among which may be specially mentioned Part 7, consisting of five chapters on Genital Tuberculosis, and Part 10, on Ectopic Pregnancy, Pelvic Hæmatocele, and Pelvic Hæmatoma. The author has made use of two kinds of type with the view of simplifying the arrangement—a large type for what he considers to be actually essential and a small type for information on what he considers minor points of detail. On page 47 we notice an illustration of a syringe with an indiarubber tube attached which is recommended by the author for emptying the glass tube used in cases of abdominal section requiring drainage. We think the use of this syringe is objectionable in that occasionally the suction may cause portions of omentum to be drawn into the apertures generally found in the glass drainage-tubes employed. We think a better way is to empty the tube by means of a simple, long, narrow glass tube passed down to the bottom of the drainage-tube. We are glad to see that the author recommends in the section on Catheterisation that the nurse should expose the parts and disinfect them before passing the catheter. As regards the after-treatment of cases of abdominal section the author apparently only advises the patient being placed on her back if a drainage-tube has been used or if there is reason to fear hæmorrhage; in other cases he seems to be of opinion that she may be turned on her side from the first. This is certainly contrary to the practice usually followed and, in some cases at all events, it gives rise to a good deal of pain. He considers that Alexander's operation is the best one for cases of retroversion and retroflexion depending upon relaxation of tissue and unconnected with adhesions. As regards the treatment of carcinoma of the cervix, while the author states that the treatment most generally recommended at the present time is total extirpation by the vagina, he says it is probable that properly performed amputation of the cervix will in the near future be demonstrated to be equally effective for cases in their earlier stages. Many authorities in this country are of opinion that this has been fairly well proved at the present time.

The book is well printed and fully illustrated. Many of the diagrams, however, will be familiar to readers of other works on gynæcology.

A Manual of Pharmacology and Therapeutics. By WILLIAM MURRELL, M.D. Brux., F.R.C.P. Lond. London: Baillière, Tindall, and Cox. Pp. 657. 1896. Price 10*s.* 6*d.*

A SOUND and thorough knowledge of the action of drugs is of such great practical importance that the withdrawal of pharmacology as a separate subject from the examinations of the Conjoint Board should make no difference to the reception of a good text-book on the subject. Dr. Murrell's name is well known as a writer on drugs; in particular, his little work on the Treatment of Poisoning is known to every practitioner as a sound and practical treatise of the greatest value. The present volume maintains its author's reputation for practical knowledge and common-sense. Extraneous and unnecessary matter is for the most part avoided, and the pith of the subject is presented in a blunt and straightforward manner. After an introductory chapter dealing with various preliminary and accessory matters such as adulteration, modes of administration, dosage, tolerance, prescribing, &c., the pharmacology and therapeutics of the principal drugs are described in three sections under the headings of Inorganic Substances, Synthetical Compounds, and Drugs of Vegetable Origin. Its directness, plainness, and accuracy will make this, the main part of the book, very useful to the student. It is concluded by a good synopsis of pharmacological actions, tables of weights and measures, examples of prescriptions (in which the distinction between mixtures and draughts is not very apparent), a series of recipes for the "dainty dieting" of the sick, and a selection of examination papers for the guidance of the student. Misprints are unfortunately of frequent occurrence: such errors as "fibrilliary," "empyrematic," "guiacum," with many others are freely to be met with and should be corrected in the next edition. We have said that the directness and obvious intelligibility of style which characterise the book should commend it to the student. It is a pity that its plainness of speech occasionally degenerates into flippancy. We would also protest against the author's treatment of the subject of massage—a valuable remedial agent of which Dr. Murrell has himself written well elsewhere. Yet of three and a half pages on the subject he has here devoted no less than two and a half to a description which in our judgment is not edifying. It is to be hoped that these pages may be replaced in subsequent editions by a scientific account of the mode of action of massage and its special sphere of usefulness.

The Westminster Hospital Reports. Edited by R. G. HEBB, M.A., M.D. Cantab., F.R.C.P. Lond. Vol. Ix. London: J. and A. Churchill. 1895.

THIS volume contains three "In Memoriam" notices, one of Dr. Sturges by Dr. H. B. Donkin, with a reproduction of an excellent portrait; one of Mr. Barnard W. Holt, by Mr. G. Cowell; and the third of Mr. W. H. A. Tebbs, by Mr. S. A. Bull. Mr. P. de Santi contributes a paper on Intubation of the Larynx, in which he discusses its usefulness and defines its scope. Mr. H. S. Fremlin writes on the Bacterium Coli Commune and its differences according to its origin. Dr. R. G. Hebb discusses the Fehling and Phenyl-hydrazine Tests for Sugar. Then follow cases of more or less interest by Dr. A. M. Gossage, Mr. P. de Santi, Mr. W. H. Gossage, and Dr. R. G. Hebb. A case of strangulated hernia is not usually looked upon at the present day (unless there is some unusual complication or pathological curiosity) as worthy of special mention, so we have naturally carefully read those published in some detail in these reports. We hope that few surgeons in the present day would go through the old-fashioned routine treatment described in one of hot bath, opium, and taxis, for a case in which the hernia was "well marked" and when the patient already had vomiting which is described as "fæcal." The description of parts sutured after the operation as "pillars of canal" is not easy to understand, yet it is important that it should be put more clearly, for in another case where a similar procedure was apparently adopted in May a note adds that the hernia had returned in October and produced symptoms of strangulation. Some of the medical cases

published appear to be of little interest as isolated cases, for instance, "phthisis with hæmoptysis" and "herpes of the mouth." From the careful medical statistical report of Dr. Gossage we learn that in 1893 1166 cases were relieved, 45 were unrelieved or transferred to the surgical wards, and 176 died; whilst in 1894 1130 were relieved, 72 were unrelieved or sent to the surgical wards, and 169 died. From the surgical report for 1893 by Mr. W. Wyndham Powell it appears that 1127 cases were relieved, 12 unrelieved, 5 transferred to the medical wards, and 54 died; from the surgical report for 1894 by Mr. P. de Santi it would appear that 1274 were relieved and 44 died, the general mortality being 3·24, as contrasted with 4·25 in the previous year. Mr. Frederick Moreton gives the reports for the department of diseases of women, from which we learn that the number of deaths in 1893 was 8 and in 1894 7. The reports of the post-mortem examinations for the years 1893-94 by Dr. Hebb may in time become of some value on account of their number, but so many are similar to the ordinary record that they are but slightly useful in their present form and could hardly be employed by anyone anxious to collect statistics without a reference to the original and fuller accounts of the necropsies. The volume ends with accounts of pathological specimens recently added to the museum, of the anatomical collection in the museum, of the proceedings of the Guthrie Society and of the Westminster Hospital United Sports Club. The volume is well printed and bound, but there is no index.

Syllabus of Gynæcology based on the American Text-book of Gynæcology. By J. W. LONG, M.D. Richmond, Professor of Gynæcology and Pediatrics in the Medical College of Virginia, &c. Philadelphia: W. B. Saunders, 925, Walnut-street. 1895. Price $1 net.

THIS little book has been written, according to the preface, with a threefold object; first, to be used as lecture notes; secondly, to enable the student more intelligently to follow and remember the lectures; and, finally, as a convenient reference for practitioners. It is based upon the American text-book of Gynæcology, which, the author patriotically believes, reflects the most advanced gynæcological thought and work. It really consists of a series of tables, and as there are several blank sheets between the tables we presume these are intended for such supplementary notes as may suggest themselves to the student. For our own part, we are inclined to think that the advantage of such a syllabus is to a great extent lost unless the student has evolved it for himself; otherwise it tends to become a sort of cram-book, which will infallibly be a temptation to the less industrious. We think it is a mistake to render the subject of gynæcology or, indeed, any other subject too easy, in the sense of attempting to afford instruction without the necessity of personal effort on the part of the learner.

LIBRARY TABLE.

The Housing of the Labouring Classes and Back-to-back Houses. By H. PERCY BOULNOIS, M.Inst.C.E. London: St. Bride's Press, Limited.—This is a reprint of some papers originally contributed to the *Surveyor and Municipal and County Engineer* and consists for the most part of a number of diagrams showing how the rooms in artisans' dwellings should and should not be arranged. As showing how rooms for the working classes have been, are, and may be planned, the pamphlet should prove of use, but the absence of technical details detracts greatly from its value for practical purposes.

Formulaire des Spécialités Pharmaceutiques à l'Usage des Médecins. (*Formulary of Pharmaceutical Specialties for the Use of Medical Men.*) Par le Docteur M. GAUTIER et Mons. F. RENAULT. Paris: J. B. Baillière et Fils. 1895. — *Mémento Formulaire de Poche de Posologie et Thérapeutique Infantiles.* (*Pocket Formulary of Infantile Dosage and Therapeutics.*) Par le Docteur H. DAUCHEZ. Paris: Société d'Éditions Scientifiques. 1895.—English readers of current French medical literature and also those practitioners who are likely to have foreign families among their patients will find both of the above-mentioned little books very instructive. The former of them contains much information on the subject of the numerous pharmaceutical preparations which are known either by the names of the original makers or by various fanciful designations, their approximate composition, dose, and the appropriate dilution of concentrated solutions being described. The selection of remedies used by French practitioners in the treatment of children's ailments contains some useful hints.

JOURNALS AND REVIEWS.

WE always turn with a feeling of pleasure and of anticipation of profit to the *Journal of Comparative Pathology and Therapeutics;* the March number affords ample justification for this feeling. The first paper by Professor Hobday on the Toxicological Effects of Creolin in the Dog and Cat is of sufficient importance to attract considerable attention. It has been very generally accepted that creolin is an absolutely non-irritant and non-poisonous substance, but from the experiments placed on record in this article it is evident that in the case of dogs, cats, and ferrets, at any rate, creolin is an exceedingly irritant substance when applied cutaneously and is capable of producing a paralytic condition, complete prostration, and ultimately death. Professor Hobday concludes that creolin is a narcotic and irritant poison to the dog and cat, and its use in these animals must be watched with the greatest care; that when spread in emulsions over a large area of the body it acts as a powerful irritant, the more refined samples acting more energetically than the less refined; and that it is not so readily absorbed from the stomach, from small wounds, or from the subcutaneous tissues as from a large area of skin surface. Of the toxic symptoms the most important are unsteady gait, especially affecting the hind limbs, and a sub-normal temperature, followed by complete paralysis, prostration, and clonic symptoms of all voluntary muscles, especially well-marked in the limbs, jaws, and eyelids; there is a stage of semi-coma followed by complete coma and death from collapse. Papers on Strongylus Tetracanthus Parasitism by Mr. Henry C. Wilkie, F.R.C.V.S.; on Canine Rabies in India, by Surgeon-Captain J. C. Vaughan, I.M.S.; on Enteritis in the Horse, by Mr. John Pemberthy, F.R.C.V.S.; and on Intestinal Psorospermosis in Lambs, by Dr. J. McFadyean, are given. This latter is accompanied by a series of excellent illustrations which give an exceedingly good idea of the pathological condition described. In an editorial article on the Stamping-out of Glanders it is pointed out that of the whole of the cases of glanders reported in this country 70 per cent. have occurred in London, and Professor McFadyean insists on the fact that it is necessary to do something to stamp out this disease, especially in London. He indicates the inefficiency of the means that have already been tried to eradicate glanders from London stables, and points out that the only possible means of getting rid of it is to regard every animal in a glandered stable as "suspect" and to insist upon the adoption of the mallein test (which is now recognised as being almost infallible) in every outbreak. He points out that in the long run this will be the most economical and satisfactory method, even if compensation for the horse and not a mere £2 for the carcase has to be given, and even if it is necessary to get a special Act of Parliament to carry all this through.

The initial cost and friction might be considerable, but the ultimate saving would be so enormous that it is well worth considering whether this should not be attempted at once. A number of clinical cases are also reported; a series of abstracts from foreign veterinary journals and a full abstract of Dr. Sims Woodhead's report to the Royal Commission on Tuberculosis complete this number of the journal.

In the *Veterinary Journal* for May the Essay on Immunity is continued, the author treating of Protective Inoculation against Quarter Ill, Pleuro-Pneumonia Contagiosa, and other cattle diseases, devoting special attention to swine plague. An article on Vivisection from the point of view of the veterinarian and the physician is a thoughtful contribution to the question. The number also includes an article on Scientific Breeding which may be of general interest, a number of Reports of Cases, and a protest against a paragraph in the Bill drawn up by Dr. Russell which places entirely in the hands of medical officers of health work which, it is alleged, can only be thoroughly done with the assistance of veterinary surgeons. In the work of the inspection of cattle in dairies it is probable that medical officers of health will be glad to avail themselves of the assistance of a veterinary surgeon. The remainder of the journal is taken up with proceedings of the Royal College of Veterinary Surgeons and the Veterinary medical societies, followed by abstracts from medical journals and reports of Parliamentary proceedings.

Analytical Records
FROM
THE LANCET LABORATORY.

(1) TABLOIDS: (*a*) OXALATE OF CERIUM, (*b*) CAFFEINE AND ANTIPYRIN COMP., AND (*c*) COMPRESSED OX-BILE; (2) SOLOIDS OF COMPRESSED CARBOLIC ACID.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL-BUILDINGS, E.C.)

TABLOIDS of oxalate of cerium are of obvious convenience for administration in the class of cases in which the salt has been proved to be valuable. Cerium oxalate possesses, it is well known, tonic and sedative properties, and has been prescribed with excellent effect in acid dyspepsia, heartburn, &c., while in many cases it has proved beneficial in the treatment of the vomiting of pregnancy and of sea-sickness. Each tabloid contains five grains of the pure salt. The compound caffeine tabloids contain each one grain of caffeine and three grains of antipyrin, and are designed for use in many forms of neuralgia in which it is not advisable to give antipyrin without the addition of a cardiac tonic. The tabloids readily fall to powder in contact with water. The tabloids of purified ox-bile are keratin-coated, so that they are not dissolved until they reach the alkaline fluid of the intestine. In this way the irritating effect of bile on the mucous membrane of the stomach is avoided. They are prepared to supply any deficiency of bile in the system arising from hepatic disturbance or from obstruction of the biliary ducts. Bile is employed also as an alterative and as a laxative in chronic constipation and as a vermifuge in ascaris lumbricoides. The contents of these tabloids readily respond, we find, to the well-known reactions of biliary constituents. "Soloids" of carbolic acid are prepared in a shape which should be sufficient to distinguish them from a "tabloid" that is intended for internal administration. Furthermore, they produce a distinctive colour when dissolved which sharply marks the resulting fluid from any others that may be in use. Their sale should, of course—as we feel sure is the case—be rigidly restricted to the medical profession. The convenience of pure carbolic acid in this form is evident, since for use, for example, as an escharotic one soloid may be held in cotton-wool and gently rubbed over foul ulcers and suppurating surfaces, while when dissolved in five ounces of water a solution suitable for use as a disinfectant or antiseptic spray for application to the pharynx or larynx and nasal cavities is at once obtained.

IMPROVED BOVRIL (SPECIAL INVALID).

(BOVRIL, LIMITED, 30, FARRINGDON-STREET, E.C.)

Our analysis of this preparation, in the manufacture of which considerable improvement, it is stated, has recently been made, is as follows: moisture, 22·33 per cent.; organic matters, 63·83 per cent.; and mineral matter, 13·84 per cent. The organic matter (63·83 per cent.) was found to consist of albumin, 25·09 parts; peptones, &c., 24·57 parts; and crystalline meat principles, 14·17 parts. We have not examined a preparation containing so high a proportion of soluble albumin. It amounts to one-half of the matters precipitated by alcohol, the other half consisting of peptones; thus at least one-half of the original preparation is directly available as nutrient matter. The albumin is in a soluble state, but is coagulated on adding boiling water, the resulting fluid having exactly the appearance of beef-tea, containing the whole of the important fibrinous and albuminous constituents of prime fresh beef. These are balanced by the important stimulating extractives of beef. It contains in small compass all that is necessary to sustain the vital processes. Its flavour will be readily tolerated by invalids since it is of a pleasant "beefy" character.

"EXCEL" STERILISED MILK.

(THE "EXCEL" STERILISED MILK CO., LTD., 23, VICTORIA-STREET, S.W.)

On opening the bottle this milk was found to be in an excellent state of preservation, although it had been standing in a warm part of the laboratory for over two months. It was sweet and sound to the taste and had undergone no objectionable alteration. Our analysis gave the following results: total solids, 12·48 per cent.; solids not fat, 9·48 per cent.; fat, 3·0 per cent.; and mineral matter, 0·72 per cent. It was free from objectionable antiseptics, and, as will be gathered from the above results, is of uniform and good quality.

MEDICINAL MALT EXTRACT (EDME BRAND).

(THE ENGLISH DIASTASIC MALT EXTRACT CO., LTD., MISTLEY, ESSEX.)

This preparation proved to be a highly concentrated and active malt essence. It possesses a rich malty flavour and acts powerfully upon starch, converting it rapidly into maltose. It is, therefore, well adapted for use as an aid to the digestion of starchy foods, whilst furnishing also important food constituents.

PRESENTATIONS TO MEDICAL MEN.—Dr. John Martin has been the recipient from the members of the Huddersfield and District Teachers' Association Ambulance Classes of a Malacca cane and umbrella as a slight testimony of appreciation for his instructive lectures.—Dr. Patrick C. Pounden of Gorey, county Wexford, has been presented by his friends in the Killenagh and Wells Dispensary District with a gold watch, Albert-chain, and sovereign purse attached, as a wedding present, the watch bearing a suitable inscription.—Dr. C. R. Francis has been the recipient (on his resignation after thirty years' service as medical officer) from the residents of the Goldsmiths' Almshouses, Acton, of a testimonial consisting of a silk umbrella and an illuminated address.—Mr. Guy Mackeson, L.R.C.P. Lond., M.R.C.S. Eng., has received from the members of the Surbiton Ambulance Class a silver-mounted walking-stick inscribed as follows: "Presented to Dr. Guy Mackeson by the Surbiton Ambulance Class as a token of esteem, December, 1895."—Mr. E. E. King, M.R.C.S. Eng., has been the recipient from the members of the St. John Ambulance Classes, Ludlow, of a handsome silver teapot inscribed as follows: "Presented to Edward Ernest King, M.R.C.S. Eng., by the members of the Ludlow Ambulance Classes, April, 1896."

New Inventions.

A NEEDLE-HOLDER AND FINDER FOR VAGINAL, VESICAL, AND INTRA-ABDOMINAL OPERATIONS.

THIS Needle-holder, the illustrations of which are one-fourth the natural size, has the advantage of (1) holding the needle very firmly on account of the great force which can be used; (2) being suitably adapted to the hand; and (3) releasing the needle easily by pressure on the catch with the

FIG. 1.

FIG. 2.

little finger of the hand grasping the instrument. As a needle "finder" it will pick up a loose needle in a deep cavity owing to the magnetisation of the steel surface of the needle-grip (by placing it on a dynamo), and consequently is most useful in the above variety of operations. The original was made for me by Messrs. Ziemann and Co. of New York in 1889.

Christchurch, New Zealand. GRAHAM CAMPBELL, M.B.

SAFETY PARAFFIN LAMPS.

SINCE the report of THE LANCET Analytical and Sanitary Commission on Dangerous Paraffin Lamps appeared in our issue of Jan. 4th we have had brought to our notice various types of paraffin lamps which are claimed to be of a safe construction. We append a short description of each lamp with a few critical remarks thereupon.

Lamp No. 1, the construction of which is illustrated in Figs. 1 and 2, is known as the "Hydro Non-Explosive Hygienic Safety Lamp," and is the property of the "Hygienic Heating and Lighting Company," 13, Southwark-street, S.E. Its principal aim, which seems to us to be secured, is to prevent the production of a space above the oil in the reservoir as the oil is consumed, so that the formation of an explosive mixture of air and vapour in this space is obviated. This is accomplished, odd as it may appear, by first pouring in water in sufficient quantity and afterwards the oil. Fig. 1 shows the lamp after the water has been poured in and Fig. 2 the lamp with the oil added ready for use. The water need not be changed more than about once a year, so that in most cases it is only necessary to pour in the oil in the ordinary way. Obviously this device ensures all the conditions of safety of a paraffin lamp. Thus, should the lamp be upset the water takes the place of the oil and the flame is immediately extinguished. Besides this the oil and the chamber are kept cool, while the reservoir is always weighted so that the risk of tilting the lamp over is very much reduced. It might be expected that the wick being liable to become wet would not

FIG. 1.

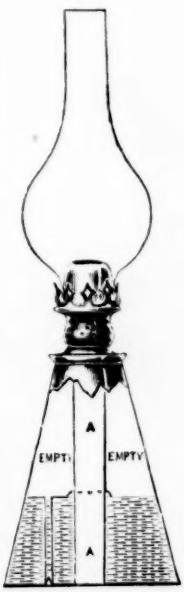


FIG. 2.

burn steadily. We have not found, however, any objection of this kind, as the lamp gives a brilliant, steady flame free from smoke and smell.

Lamp No. 2, the invention of Messrs. Stork and Lee of 70, Grafton-street, Leeds, exhibits no peculiarity of internal construction, but is provided all the same with a useful and probably safe device. It consists of either a self-acting extinguisher or of an extinguisher which may be used at will. In the former case, which is, we think, preferable, a ring

FIG. 3.

of rubber air-tubing is placed round the reservoir, a small rubber tube is joined at right angles with this and communicates with a small brass tube situated immediately beneath the wick. It is obvious that in the event of the lamp being upset a depression on the rubber tube is effected which causes a sharp puff of air to immediately extinguish

the flame. The accompanying illustration (Fig. 3) will make this action clear. Fig. 4 shows a similar device, applied to single and double wicks, which, consisting in both cases of a small air-ball, effects the same end. It is important to point

FIG. 4.

out that the air is directed upwards and not down upon the flame.

Lamp No. 3 is provided with a wick tube descending to within a short distance of the bottom of the reservoir. The wick tube is constructed so that it is impossible for the flame to travel down it, and there is no superfluous wick left loose in the reservoir. This, on the face of it, would make the wick too short, a drawback, however, which is obviated by attaching a small brass box at the end of the wick tube in which the wick terminates in a roll. In addition the box is closed underneath with a brass cap with a small hole in the centre through which are placed a few threads of worsted, which serve to supply the wick with oil from the reservoir. The lamp is, therefore, probably free from risk of explosion and from the ignition of oil when upset, so long, of course, as the screw fittings are good. The lamp is the invention of Mr. G. Holland of Barnton.

Lamp No. 4 is of simple construction, the wick, tube, and burner being situated some distance from the reservoir. The reservoir is pyramid-shaped, with a handle fixed upon it. A small pipe projects from beneath the reservoir to the wick-container, serving to feed the wick with oil. The wick-tube is in the same plane as the reservoir, but at a distance of about 2 in. from it. The lamp is proof against explosion and ignition of escaping oil. It is an inexpensive device, hardly artistic, but probably effectual, and is suggestive of a teapot with a vertical wick-tube attached to the spout. It is the invention of Mr. C. H. W. Remmett of 22, Edward-street, Camberwell.

Lamp No. 5 was sent by Mr. W. Heath of 21, Bride-lane, Fleet-street, E.C., and is simply fitted with an automatic extinguisher. The objection to extinguishers is their liability under constant change of temperature to become fixed, and therefore to fail at the precise moment they are required to act. The extinguisher of this lamp, however, appears to be very simple and is probably to be relied upon.

Lamp No. 6 is the patent of Mr. A. H. Thompson of 18, Garford-street, Poplar. We have not received a lamp for inspection, but it appears to be adapted for the burning of colza oil. It is stated that if the "Equipoise Lamp," as it is called, is knocked over by accident the flame is automatically extinguished.

Most of the above lamps were of an inexpensive type, and the chief objection to several of them consisted in their inferior screw fittings. This point was alluded to in the report of our Commission. The thread of the screw used for attaching the wick-tube to the reservoir is sometimes so badly cut as not to afford a safe means of securely fastening the wick-tube to the screw of the reservoir. In some cases barely the turn of the screw is necessary to detach it, with the result that on upsetting the lamp it is not improbable that the burner would fall out and the reservoir rapidly empty itself of oil. We have shown, however, that it is quite possible to construct a lamp which will not cost much and at the same time be safe, and there are plenty of devices which may be made to meet these ends.

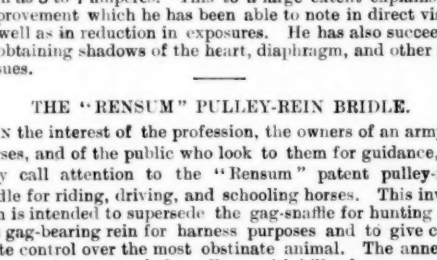
CATHODAL PLATES.

WE have received from Messrs. B. J. Edwards and Co., of The Grove, Hackney, N.E., a packet of cathodal plates which are specially prepared for the new photography in accordance with suggestions made by Professor Oliver Lodge. The sensitised film contains a fluorescent substance the presence of which greatly reduces the exposure—as we have ourselves found—while the pictures contain full detail with good density. We selected as a subject the elbow, and with a minute's exposure an excellent definition of the joint was obtained.

In this connexion we may add here that Dr. Macintyre of Glasgow writes that he has obtained very rapid results without the aid of fluorescent screens. He has found that by using a mercury interrupter the fluorescence obtained from the apparatus was more brilliant, while with the ordinary interrupter the current, although 17 ampères across the terminal screws of the primary wires, never rose to 1. On the other hand, with the mercury interrupter the actual current passing through the primary circuit registered as high as 5 to 7 ampères. This to a large extent explains the improvement which he has been able to note in direct vision as well as in reduction in exposures. He has also succeeded in obtaining shadows of the heart, diaphragm, and other soft tissues.

THE "RENSUM" PULLEY-REIN BRIDLE.

IN the interest of the profession, the owners of an army of horses, and of the public who look to them for guidance, we may call attention to the "Rensum" patent pulley-rein bridle for riding, driving, and schooling horses. This invention is intended to supersede the gag-snaffle for hunting and the gag-bearing rein for harness purposes and to give complete control over the most obstinate animal. The annexed diagram shows one of the pulleys, with billet for use on any



ordinary curb bit or double ring snaffle, either for riding or driving, and forms part of the "Rensum." Any apparatus which will stop a bolting horse with but little application of extra force must recommend itself; we need, therefore, only add that these bridles appear to have the high approval of the War Office. We think they are worthy of a trial. They are supplied by J. S. Rensum, The Cottage, Yardley, Worcestershire.

PATHOLOGICAL SOCIETY OF LONDON.—The following are the officers and council proposed for election for the year 1896. The ballot will be taken at the annual general meeting to be held on May 19th:—President: Henry Trentham Butlin, D.C.L., F.R.C.S. Vice-Presidents: William Richard Gowers, M.D., Samuel West, M.D., Norman Moore, M.D., Seymour Sharkey, M.D., Arthur E. J. Barker, Frederic S. Eve, Samuel G. Shattock, and Frederick Treves. Treasurer: Sidney Coupland, M.D. Honorary Secretaries: J. H. Targett, M.S., and Richard G. Hebb, M.D. Council: Wilmot Parker Herringham, M.B., A. A. Kanthack, M.B., Hector Mackenzie, M.D., Julius Dreschfeld, M.D., G. Newton Pitt, M.D., H. D. Rolleston, M.D., Charles Scott Sherrington, M.B., F. Charlewood Turner, M.D., A. F. Voelcker, M.D., Hubert Montague Murray, M.D., Gilbert Barling, M.B., James Berry, M.B., W. G. Spencer, Anthony Bowlby, E. Hurry Fenwick, H. Betham Robinson, Stephen Paget, Bilton Pollard, M.B., Raymond Johnson, and C. E. Leopold B. Hudson.

THE LANCET.

LONDON: SATURDAY, MAY 16, 1896.

THE constitution of the first Court of Appeal from the judgment of the General Medical Council cannot but be a matter of historical interest to the medical profession. The Court consisted of four members of the Privy Council—His Grace the Lord President (Duke of DEVONSHIRE), Lord RATHMORE (late DAVID ROBERT PLUNKET), Lord JAMES OF HEREFORD, and Lord MACNAGHTEN. No better Court, probably, of the sort could have been devised for the purpose. The wide experience of its members and the broad point of view from which they regarded the subject give importance to their judgment. It was easy to see that they were by no means intimately acquainted with the details of the Medical Acts and the interdependence under the Act of 1886 of the Medical Corporations. This is almost inevitable. If the General Medical Council has the wisdom so to administer the Medical Acts as to supply the material of an appeal only once in forty years it is scarcely likely to give their lordships of the Privy Council the chance of any serious familiarity with this somewhat technical and complicated legislation. The whole proceedings did not last more than about three hours. The statement of the case of the Apothecaries' Hall of Ireland by Mr. HALDANE, whose sound and studious knowledge of law is recognised, commenced the proceedings. He was supported and well prompted by Mr. B. S. FOSTER (son of Sir WALTER FOSTER), acting as junior. The case is doubtless well known to our readers, but must be recapitulated in outline; in fact, a similar outline occupied two-thirds of the time of the Privy Council on Monday. The Apothecaries' Hall of Ireland claims to be useful in a country which has some thousand dispensary officers, in supplying competent practitioners. Until 1886 the modest fee for its examination was 10*s.*; but by the Act of that year being unable longer to grant a separate diploma, it was required to be conjoined with another corporation or to seek the appointment of surgical examiners from the General Medical Council. The former arrangement was soon agreed to and a conjoint examination instituted between the Royal College of Surgeons in Ireland and the Apothecaries' Hall. This was a proof that in the judgment of those who knew Ireland there was room for an examination somewhat less costly, if not less exacting, than that held by the corporations of the King and Queen's College of Physicians of Ireland and the Royal College of Surgeons in Ireland.

The Conjoint Board of the Royal College of Surgeons and the Apothecaries' Hall seemed to work fairly well until very recent years, when the inspections of the General Medical Council showed less satisfactory results and the Royal College of Surgeons in Ireland saw fit to withdraw from a connexion out of which it probably drew a large share of the profits, and for the results and defects of which it must accept a large responsibility. Latterly the number of those receiving their diplomas from this Conjoint Board have dwindled down to a figure which, if permanent, would argue the superfluity of such a body. The College of Surgeons gave notice of the termination of its share in the conjoint examination in July, 1895, and then the troubles of the Apothecaries' Hall, whose conjoint examinations with the College of Surgeons had on three or four occasions been the subject of unfavourable notice by the inspector and visitor of the General Medical Council, became acute. The unfavourable notices applied chiefly to the medical part of the examinations and the climax was reached on June 6th, 1895, when it was resolved by the General Medical Council that the examinations having been found insufficient in four inspections, the General Medical Council "do now make a representation to that effect to the Privy Council." The representation was made to the Privy Council; but an easy answer was soon forthcoming. In August Sir C. LENNOX PEEL, in their lordships' name, replied that as the Conjoint Board was no longer in existence (having been terminated by the action of the Royal College of Surgeons in Ireland) it appeared unnecessary for the Privy Council to come to any decision as to the insufficiency or otherwise of the examinations. This was a sort of suggestion to the General Medical Council to consider *de novo* the question, but it was not so taken by the majority of the General Medical Council. And in November a request from the Apothecaries' Hall of Ireland to give that body another chance by appointing surgical examiners was rejected, leaving the Apothecaries' Hall no option but to appeal to the Privy Council, and this appeal came on for hearing on Monday, May 11th.

That the report of four inspections had been unfavourable and that a candidate—one of four—who really had done very badly in the examination in clinical medicine should have passed in medicine seemed facts rather damning to the Apothecaries' Hall; but this was not quite the whole truth of the last inspection, as was brought out before the General Medical Council and again before their lordships. The inspector and visitor did not deny that there had been general improvement in the examinations. They said so, indeed, in their report and added, "We have no fault to find with the examination itself." Mr. WHEELHOUSE, the visitor, with that candour which all who know him would expect, admitted that he was in error in saying that the candidate had passed. It was known that the candidate would be re-examined in the subject. Mr. HALDANE'S quiet statement on behalf of the Hall made the most of these admissions of the inspector and visitor. He showed that if the Irish members of the General Medical Council had not owing to unavoidable circumstances been absent the numbers on the division would possibly have been different. The statement of counsel occupied the Court till lunch time, and on its return Lord MACNAGHTEN, who had led their lordships throughout, suggested that it would relieve them from a delicate and difficult situation if the Apothecaries' Hall would approach the General Medical Council with another petition, leaving it a free hand in the selection of examiners, and if the General Medical Council would on its part entertain such

a petition. Mr. HALDANE undertook, after consultation with the representatives of the Apothecaries' Hall, to do so. Sir ROBERT REID was in a most difficult situation. He had not had the chance of stating the case for the General Medical Council; but in a few very apt sentences he vindicated the single desire of that Council to maintain a proper standard of education, and, though he could not pledge that Council, undertook to place the views of the Privy Council in a favourable light before it. The terms in which their Lordships spoke of the General Medical Council and of the respect in which it is held by the public show that they believed that it was a more fit body to decide such questions than the Privy Council. At the same time they hinted that there had evidently been a slight failure to allow sufficiently for the admitted improvements and for the actual facts regarding the candidate who did *not* pass. The result is not altogether unsatisfactory, although neither party to the appeal can be quite satisfied. But dispassionate critics will find little cause to grumble. The result is mainly gratifying as showing the reluctance of the Privy Council to interfere in questions for the settlement of which the General Medical Council exists. It is no doubt tempting to undo a Gordian knot by cutting it. But it is the English way to persevere, and if there be any reasonable ways of solving a difficulty to let no one remain untried. This appears to be the view of the Privy Council their lordships being evidently unwilling to interfere until every chance of settlement by the General Medical Council has been exhausted. This attitude of the Privy Council is a revelation that comes at an acceptable time, but we fear it will not be appreciated by the General Medical Council. This body has spent time, money, and energy in their attempt to raise the standard of the profession, and the Privy Council, with much politeness of phrase, recommend that they should reconsider their deliberate decision.

IN these days, when the evil of overcrowding in the profession is so apparent to ourselves, it is interesting to find that other countries suffer in the same way. The *American Medico-Surgical Bulletin* contains an article with the heading of "Recruits to the Medical Profession" in which some excellent practical hints are offered to recently fledged graduates. The writer asserts that, given good training, average ability, pluck, and stability, there is room in his land (America) for everyone. It may be noted in passing that these rather exceptional characteristics would command success in any walk of life. In addition, however, the possession of capital is insisted upon.

"It is the exception that a young graduate possesses at the start influence or help sufficient and of the proper calibre to enable him to start in life with a boom..... The road which the average new graduate will have to travel will thence be a very hard one, and without doubt many a one will drop at the wayside, weary of waiting and despairing of success, before the year is out. Let his comfort be that he thus is simply doing what scores of others have done in the years gone by. It is no reflection on his ability or on his merit. The result has been the necessary outcome of the fact that he adopted a profession without possessing the amount of money requisite to give him staying power during the early years of his struggle. In short, too many men undertake the study of medicine without being advised that there is no royal road to success, that the struggle is bound to be hard and bitter, that the competition is keen and is becoming keener every day owing to the boundless charity shown to the sick and the suffering, too often irrespective of their pecuniary status."

The last lines of this paragraph awaken thoughts that must be agitating the minds of many of the younger generation in this country as well as in America. There can be no question that were the circumstances of each individual patient at present under treatment in our London hospitals carefully investigated many would be found able to pay adequate fees for operation or other treatment. We cannot but think that the two main uses of hospitals—to relieve the really poor and to afford means of medical instruction—are far too much lost sight of in our large cities. Some of the special hospitals in the metropolis especially are so comfortable, not to say luxurious, that patients of the well-to-do classes have every incentive to enter them. And though we should be the last to discountenance comforts for the sick and needy, we question very much whether the funds subscribed by public charity should be expended in providing apartments and attendance fitter rather for the upper classes than the very poor. In our experience tradespeople are usually as well-to-do as medical men, and yet a large proportion of the former do not hesitate to accept public charity when occasion offers. We very much regret to have to point out that there is reason to believe that this unsatisfactory state of things is directly fostered by the want of business capacity and supineness of the members of the profession themselves. The practitioner in thoughtless kindness of heart says to his patient, "Oh, I will send you to Mr. X. at such and such a hospital, he will take you in and do it for nothing." Mr. X. is very commonly too kind and good-natured or too blind to his own interests and those of the profession at large to refuse. The patients like Mr. X., find him kind and "clever," and as a snug room is found for them at the "hospital" they gladly enter it and receive gratuitously the benefits of public charity and medical skill. The individual experience of many of our readers will supply them with instances of this undesirable state of things in sufficient abundance. We believe that the younger members of the profession, especially the consultants, attached to special hospitals would do well most carefully to consider their position and to absolutely refuse to confer the benefits of their services on any but the really poor. The spectacle of a struggling surgeon or physician conferring his services gratuitously upon the wife or near relative of a well-to-do tradesman would be ludicrous if it were not also sad and terribly incongruous. A firm combination should be entered into between general practitioners and consultants to resist by all means in their power the growing abuse of gratuitous medical work.

The article in our American contemporary goes on to give some excellent advice to young graduates regarding the subject of special practice:—

"Specialists are neither born to the purple nor are they made by three years' study. It is the acquisition of knowledge through years of personal observation and of practice which fits the average man for a specialty, and disappointment is bound to come to the graduate who, in forgetfulness

of this fact, at once after graduation announces himself as a specialist in skin diseases, obstetrics, eye, and throat, or, in that very popular specialty, the diseases of women. If the scores of young graduates now being turned loose on this and other communities will only weigh well the question of adaptability to a special practice, they will reason out for themselves why it is a mistake on their part to rush into one before they are really competent to cope properly with diseases of the body at large. This country now has far too many *crude* specialists. It is they who cast disrepute on American medicine and surgery. It is they who ruin the value of our statistical data, reporting as they do incomplete and immature operations, lauding to the skies new methods which their seniors in the profession would be desirous of testing for years before accepting as at all adequate or proper."

These remarks apply equally to our young graduates in this country. There is a regular rush into specialism. Attracted by exaggerated ideas of the earnings of specialists, and with but a poor idea of their expenses and the requisite labours of their earlier years, "specialists" in the eye, ear, skin, or in the ever-popular gynæcology are almost weekly establishing themselves in our large cities. Mr. MITCHELL BANKS alluded to this in his speech at the recent dinner of the Medical Society of London with some feeling. What is true of London is true of Liverpool, and probably of Manchester and other large towns. "Incomplete and immature" operations are not unknown on this side of the Atlantic. Any young graduate who makes up his mind to become a "specialist" in any branch of medicine or surgery must also make up his mind to go through the many years of hospital drudgery that are essential to equip him with the superior knowledge, judgment, and skill that alone are sufficient to entitle him to the support of the members of his own profession and the public. It may be that hospital teachers are apt to neglect the opportunities offered to senior men to give words of counsel and advice to their juniors in respect of these and similar particulars.

A SPECIAL meeting of the governors of the Chelsea Hospital for Women will be held on Wednesday next, May 20th, at the Hospital, to adopt the following by-laws:—

"SUSPENSION.—A Member of the Honorary Medical Staff may be suspended from duty for not longer than one calendar month by resolution of the Weekly Board, and notice of a Special Council Meeting shall be immediately given to consider the case.

"REMOVAL.—A Member of the Honorary Medical Staff, whether previously suspended or otherwise, may be removed by a majority of not less than three-fourths of the members present at a Council Meeting specially convened by not less than seven days' notice, which notice shall state that the Meeting is to consider a matter concerning a member of the Staff. The member of the Staff in question shall have an opportunity of appearing before the Council to give explanations. A member so removed shall *ipso facto* cease to be a member of the Honorary Medical Staff."

The lay managers of hospitals have before now enacted by-laws offensive to their medical staffs, and it has been our experience that the more uncertain the status of the hospital, and the more undecided the reasons for its existence, the more is the lay management quick to misappreciate the relative importance of the medical and administrative sides of the institution. But for silly impudence manifested by a lay management towards their professional colleagues we have seen nothing to approach the two by-laws to which we give publicity above.

The weekly board of the Chelsea Hospital for Women is therefore to be given leave to suspend at pleasure a member of the honorary medical staff for not more than a month! This weekly board will attempt next to get a rule adopted enabling it to send cantankerous medical officers to bed not earlier than 6 P.M., or to fine them, say, not less than two pounds if they contradict each other in an angry manner. Seriously, however, these by-laws are an insult to the medical profession. If a member of the honorary medical staff does wrong of course he must be dismissed, but every properly constituted hospital, governed by persons able to look after its interest, has ordinary provision for this remote contingency. What do the lay managers of the Chelsea Hospital for Women mean by taking extraordinary steps and anticipating that their medical staff is likely to misbehave? These insinuations of bad conduct to be feared on the part of the medical gentlemen who do the work on the performance of which, we suppose, the hospital would base its reason for existence come with exceedingly bad grace from the lay board of the Chelsea Hospital for Women, who at the present moment rest under the stigma set upon them by an independent committee of investigation—we refer to the report of Lord BALFOUR of BURLEIGH'S committee. That committee, the members of which were Lord BALFOUR of BURLEIGH (chairman), Lord SANDHURST, Sir CHARLES DILKE, Dr. (now Sir) JOHN WILLIAMS, Mr. H. G. HOWSE, and Mr. J. H. BRASS, reported in July, 1894, that the administration of the hospital left much to be desired, that the Committee of Management did not meet sufficiently frequently, and that the house committee was scantily attended. In spite of these findings by an independent and unimpeachable body of gentlemen the lay board refused to resign and proceeded to elect a new medical staff. When they did resign later it was—according to Lord GLENESK, who tendered their resignation—for other and quite trivial reasons. Certain of the members of the old lay management were re-elected and remain active members of the present board. Would they have been re-elected if they had resigned when their conduct had been recently reviewed by Lord BALFOUR of BURLEIGH'S committee, and because of the findings of that committee? Of course not. In the eyes of all practical men the present lay management abides under the censure of Lord BALFOUR of BURLEIGH'S committee, and for it to take extraordinary precautions to censure other people is pharisaical and incongruous.

We have, in conclusion, one question to ask. Sir ALGERNON BORTHWICK (Lord GLENESK) on Nov. 28th, 1894, in tendering the tardy resignation of the discredited lay board, said that the question of mixed committees had been considered and that in the future the Committee of Management of the hospital would consist of laymen only; but it

would have attached to it, he added, one of the medical staff, who would always be ready to give advice to the committee, though he would not be a member of the committee or in a position to register any vote at their deliberations. Sir ALGERNON BORTHWICK then read out the names of the proposed new lay Board of Management, but he did not say who the medical adviser to this board was to be. He did not mention his name nor did he say how he was to be chosen. Now the offensive by-laws we have quoted have clearly a medical bearing. They constitute threats of punishment uttered by the lay management against the medical staff. If the purely lay board is suggesting out of their own lay heads that the governors of the hospital should adopt these by-laws they have acted improperly. But if their by-laws are the result of a consultation with their medical assessor we should like to have the name of the member of the staff of the Chelsea Hospital for Women who rates his colleagues so highly that he sanctions an attempt on the part of the lay management to make arrangements for having them whipped if they are naughty!

When going to press we hear that the full approval of the medical staff has been obtained to these proposals, but they could not have seen the drift of them.

THE Poor-law Officers Superannuation Bill as amended by the Standing Committee on Law has been issued, and since it will probably soon come on for the third reading, at which stage it may be expected that some amount of opposition will have to be met, it may be well to glance at some of the more salient points of the proposed measure. In the first place, it is very wide in its application in so far as officers and servants of Poor-law authorities are concerned. All persons regularly employed by such authorities, whether giving whole time services or part time only, come within the provisions of the Bill and will participate in its advantages. Thus superintendent registrars, district registrars, and school attendance officers come within the definition "officer." The managers of district schools, sick asylums, and the managers of the Metropolitan Asylums District also come within the purview of the Bill, their officers and servants being therefore included within the scope of its operations. As regards the "certainty" of superannuation which the Bill desires to see granted, it leaves it optional to existing officers whether they will accept it on the proposed basis, or by standing out from the enforced deduction of a percentage of salary place themselves at the mercy of boards of guardians and others in the matter of superannuation when the time comes for their retirement. In other words, if existing officers like to run the risk of a retiring allowance which is now at the discretion of their employers they may do so, just as they have had to do hitherto. If they decide to convert doubt into certainty they will have to pay from 2 to 2½ or 3 per cent. of their emoluments, according to whether they have been in office less than five, or less than fifteen, or upwards of fifteen years at the time of the passing of the Act. A superannuation allowance may be secured after ten years' service by reason of incapacity for discharge of duties arising from infirmity of mind or body, or of old age, or after forty years' service if the individual be sixty years old, or by having reached the age of sixty-five years; and the guardians may compulsorily retire an officer at the latter age if they deem it expedient. The allowance granted is to be at the rate of one-sixtieth for every year after ten years' service up to forty-sixtieths. All future officers and servants will have to surrender 2 per cent. of their emoluments to secure these benefits. All services, whether continuous or not, will be aggregated for the purposes of superannuation allowances, which latter will be granted on the average receipts of the last five years of service in each instance. Peculiar professional qualifications and special circumstances may, with the consent of the Local Government Board, be recognised by the addition of a number of years—not exceeding ten—beyond those actually served. Resignation of office, dismissal for grave misconduct, &c., may be followed by return of a part or the whole of the contributions made towards the superannuation fund; and an officer losing office through no fault of his own will have the right of return of his contributions and may be granted a gratuity in addition. But in all these cases of added years, of returned contributions and of gratuities, one month's notice of any such proposal must be given to each guardian. Certain provisions are made to meet the cases of appointments which lapse by reason of the death, or dismissal, or insanity, of one of two persons holding a joint appointment. The Bill also deals with the questions of divided unions, allowances to persons paid by fees, the inclusion for allowance purposes of all poundages, allowances for rations and house rent, and the like. It also appoints the Local Government Board as arbitrators in difficult cases, and finally limits the measure to England and Wales. Such, briefly, are the chief points of interest in the contemplated Act as at present drawn.

Annotations.

"Ne quid nimis."

SIR WILLIAM OVEREND PRIESTLEY, M.P.

THE unopposed election of Sir William Priestley to the representation of the Universities of Edinburgh and St. Andrews in the place of Sir Charles Pearson, the Lord Advocate, will be welcomed with satisfaction and pleasure by the whole of the medical profession. To us it is the more gratifying because the hope which we expressed in our issue of April 11th that the link which had so long bound the representation of the Universities to a Government office would be broken has not only been fulfilled, but fulfilled by means of the election of a medical graduate. Sir William Overend Priestley is the son of Joseph Priestley, the grand-nephew of the celebrated chemist; his professional qualifications and appointments are too well known to our readers to require recapitulation on the present occasion. The advantages which must result from the presence of medical men in the House of Commons are obvious, and, while congratulating Sir William Priestley on his election, we also congratulate the members of the House of Commons, whose hands will be strengthened when legislating on matters concerning the health of the public.

MEDICAL FREEMASONS.

THAT many members of the medical profession take an interest in Freemasonry is obvious for various reasons, among which the following may be noted. From time to time appear in our columns accounts of the meetings of the Æsculapius Lodge, which was founded for the convenience of medical Freemasons, and the members of which are, we believe, at the present time all medical men. The Rahere Lodge, if not entirely medical, being recruited from St. Bartholomew's Hospital, must be predominantly so. The University of London Lodge necessarily includes a very considerable proportion of medical graduates. And there is probably scarcely a Masonic lodge throughout the country which does not contain at least one medical practitioner. The important part played by members of our profession in the history of Freemasonry has been well shown by a distinguished Masonic writer, Mr. R. F. Gould, whose paper on the subject we reviewed in our issue of Jan. 26th, 1895 (p. 246). It is therefore deserving of record in THE LANCET that on the recent occasion of the twenty-first anniversary of the Prince of Wales's installation as Most Worshipful Grand Master of England high Masonic honours have been bestowed upon several medical Freemasons. Brother George Cowell, F.R.C.S.Eng., senior surgeon to Westminster Hospital, and Brother Henry Sutherland, M.D.Oxon., M.R.C.P.Lond., have received the honour of the rank of Past Grand Deacon, and Brother C. D. Hill Drury, M.D.Aberd., of Darlington, and Brother George Mickley, M.B., M.C.Cantab., Medical Superintendent of St. Luke's Hospital for Lunatics, that of Past Assistant Grand Director of Ceremonies. The number of those who received brevet honours on this special occasion was twenty-one, corresponding, we presume, to the number of years during which the Prince of Wales has been Grand Master, and it will be seen that our profession has received a generous proportion—nearly one-fifth of the whole number. We also notice in the list of the Grand Officers for the present year the name of Mr. Frederick Gordon Brown, M.R.C.S. Eng., L.S.A., who has been appointed one of the Assistant Grand Directors of Ceremonies. We congratulate our medical brethren (this last word ought to be as highly prized and respected in our world as it appears to be in that of Freemasonry) on their well-won promotion. Since the above was written information has been received of the death, at the great age of 106, of Mr. W. Salmon, M.R.C.S.Eng., of Cowbridge, Glamorganshire. It is hardly to be doubted, seeing that the date opposite his name in the Calendar is 1809, that Mr. Salmon was the Senior Member of the Royal College of Surgeons of England. The honour was also generally claimed for him of being the oldest Freemason in the world, although the validity of this claim has, we believe, been questioned in the Masonic papers. Be this as it may, we may safely look upon him as having been the oldest medical Freemason.

PRECAUTIONS AGAINST RABIES.

IT is a pity that some more efficient methods cannot be taken for the extinction of rabies than those at present in vogue. The muzzling order as it now stands is very incomplete, and by its incompleteness it not only fails to effectually stamp out the disease, but also gives rise to great dissatisfaction on the part of those who keep dogs. It is quite absurd to muzzle dogs in a certain small district and limit it by definite lines, and this is pointed out in our last week's issue by our correspondents in Manchester and Ireland. At Dublin, for instance, we are told that while the South Dublin Union approves of muzzling the northern part does not, so that the consequence is that people remove the muzzles as soon as they pass over the boundary line. Such local laws are, of course, absolutely worthless and most illogical. We further learn from one of our correspondents in Ireland that a member of the profession has been strongly protesting against muzzling dogs, as in his opinion it is calculated to produce rabies and to develop in rabid dogs a tendency to bite, and also, in this gentleman's opinion, a muzzle may actually cause madness, and so rabies may develop *de novo* without contact with another diseased animal. We cannot agree with him in this theory and we cannot help thinking that a great deal of harm may be done by the spread of such ideas. If efficient muzzling were enforced throughout the country for a certain time and proper precautions taken with regard to imported dogs there is no reason why rabies in England should not become a disease of the past. The objection to muzzling is mainly the result of a morbid sentiment which considers the temporary inconvenience caused to the dogs to be of more importance than many human lives. One great good the order has certainly done: it has shown what a vast number of dogs there are which are never looked after, and the destruction of many of these has at least removed some of the dangers and nuisances which they cause.

BICYCLING FOR WOMEN.

THE April number of the *American Journal of Obstetrics* contains two articles on the question of bicycling for women. One of the papers was read before the Washington Obstetrical and Gynæcological Society by Dr. F. S. Nash in December last, and the same number of the journal contains a short report of the discussion which followed the reading of his paper. The opinions expressed in these two papers and in the discussion mentioned appear to be on the whole distinctly favourable to the use of the bicycle by women. At the same time the possibility of harm resulting was not lost sight of. It may not be out of place for us to briefly consider some of the dangers that have been suggested as likely to result. The advantages are so much in evidence that we need say very little about them. It is rather in the direction of pointing out the possible dangers that we think it may be useful to make a few observations. As regards the effect of the bicycle on the pelvis, it is to be borne in mind that the pelvis is not really mature until at least twenty years of age. Before that time its shape is decidedly influenced by pressure. One of the objections urged to the use of the bicycle has been that the tuberosities of the ischia may be pushed upwards and inwards, so as to seriously curtail the transverse diameter of the outlet of the pelvis. This view takes for granted that the rider uses a saddle that enables her to support herself actually on the ischial tuberosities, as in ordinary sitting. On the other hand, it has been urged by Dr. Nash that so long as the patient is really supported on the saddle by the ischial tuberosities alone without pressure on the perineum no harm is likely to result. It will thus be seen that those who have given careful consideration to the subject are by no means in accord in their views as to how immunity from ill-effects in bicycling may be best secured. Under the same circumstances one writer says that contraction of the pelvic outlet in the transverse diameter will result, a consequence that may be of the gravest import in a subsequent labour, while another takes the view that nothing of the kind is likely to happen. This being so, we must probably wait for further information as the result of actual experience before this and allied questions can be satisfactorily settled. In the meantime it would seem desirable that young girls especially, whose pelves are not firmly ossified, should either be advised not to use the bicycle at all, or at any rate to use it to a very moderate extent. Some of the cases in which the use of the bicycle is likely to be advantageous are those of hysteria, neurasthenia, anæmia, chlorosis, dyspepsia, constipation, or in general terms cases

where the patient is more or less an invalid, but without the existence of any definite organic disease. We have already called attention to the opposite opinions as to the effect of bicycling on the pelvis. We may also mention that authorities are equally divided as to the effect of bicycling on the perineum, some holding that the effect of bicycling on the perineum is to render the structures of the pelvic floor dense or, indeed, almost cicatricial, and therefore extremely slow and difficult to dilate; while others hold that the effect is the exact opposite, and that, in patients who ride bicycles, the perineum actually dilates much more readily, so that the latter part of the second stage of labour is materially facilitated. There can be no doubt that bicycling during a menstrual period is unadvisable, and that to ride during pregnancy will in many women involve a special liability to the occurrence of a miscarriage or of premature labour. From what has been said it is evident that ill-effects due to bicycling may be immediate or remote. Among the more serious of the immediate consequences are the production of ante-partum hæmorrhage, or the derangement of the function of menstruation. A less important immediate consequence may be abrasion of the skin of the perineum and parts adjacent; this may probably be avoided by choosing a good form of saddle—one that presses as little as possible on the perineum. The most serious remote consequence that appears to be possible is deformity of the pelvis. At present we do not think that the occurrence of such deformity as a result of cycling has been actually proved. We publish in another column an interesting article on Perineal Pressure in Cycling by Mr. A. C. Roper. His paper is more especially concerned with the effects of cycling in men. In the concluding paragraph, however, he makes a few remarks on cycling for women, and expresses the opinion that women are less liable than men to damage from pressure. We should be disposed to take exception to this opinion. It is true, as Mr. Roper says, that in women the urethra is not much exposed to pressure and they have no prostate to be bumped about. There is, however, the effect of pressure on the shape of the pelvis to which we have referred above which has especial importance in women; and, again, if they have no prostate there are the uterus and vagina which may be displaced or prolapsed, and there are the uterine appendages which are prone to inflammatory mischief. An old-standing perimetritic inflammation may easily be stirred into renewed activity by over-exertion or imprudence, especially at or about the time of a menstrual period. We should say that there are many more possibilities of harm resulting from cycling in the case of women than in the case of men.

THE REFORMATION OF BABY-FARMING.

THE horrors which have recently come to light in connexion with baby-farming must have convinced the most indifferent observer of the necessity for employing such measures as will not only threaten, but effectually prevent, the recurrence of such barbarities. To punish the criminal is just; it is wise, also, because in some degree deterrent; but the crimes themselves, for these are but representative of a class, prove that the remedy remains to be discovered. In order to find this we must be familiar with the conditions under which the system of foster-parentage commonly maintains itself in the present day. Such conditions in very many cases are merely the effect of a too selfish regard for domestic or personal convenience. A child for some reason, usually because it is expensive or illegitimate, is considered to be superfluous and it is boarded out. The transfer is regarded as a confidential matter and is conducted as a rule with all possible secrecy. The result may be favourable to the child. In many cases it is so, for the transaction may be of a *bonâ-fide* character. In many more it is quite otherwise. After a few months it ends with the child's death, and for some impoverished parent or unwedded mother there is one incumbrance the less. To question the existence of criminal complicity in a large number of such cases would be to ignore the most patent facts of legal evidence. As to the means employed these are not always summary and certain, though the more gradual process of starvation is hardly less effectual in the end than actual violence. Wearing, as it may do, the comparatively innocent aspect of an error in judgment it is, on the whole, safer—or at all events it is supposed to be so. In judging of its real character and motive there is need of the careful examination of circumstantial data. It is only after a scrutiny of these various facts that we can find ourselves in a position to discuss the question of preventive treatment. To our own mind this does not present any very serious difficulty, but it requires to be dealt with in a decided and practical manner. We have always maintained that inspection is in such cases the key to the position but this method in order to succeed ought to be carried much further than it now is. It should be made to apply to the case of every single infant sent away from the parent to be nursed. It should take cognisance of the character of the intending custodian, of her fitness for her duties, and we may add, of the health, condition, and prospects of the infant. It should provide for periodical official supervision of the nurse and child. It would also be desirable as a safeguard, and a very simple matter, to provide the nurses with a code of instructions as to necessary points in diet and hygiene. Hitherto the State, beyond instituting a system of partial registration, has made no regular provision for the requirements of nurse children. We trust that the evidences of legislative inadequacy which from time to time have been so painfully apparent will at length, and soon, receive that practical recognition which can alone make amends for past neglect in reference to this subject.

THE ADMINISTRATION OF THE VACCINATION ACTS IN THE COUNTY BOROUGH OF READING.

DR. ASHBY, medical officer of health for Reading, has just issued a special report on the vaccination of this county borough, and the document has interest from several points of view. Dr. Ashby first shows that the increase in the number of children unaccounted for as regards vaccination had risen from 2·0 per cent. of registered births in 1872 to 24·4 per cent. in 1894, and he calculates that this represented a remanet of 26 unvaccinated infants for 1872 and 231 for 1894. This rate of increase must mean for the period in question between 1000 and 2000 children who have no protection against small-pox. Another point well worthy of notice is the fact that certificates of so-called "insusceptibility to vaccination" are on the increase in the borough. As to this he recalls the statement in Dr. Thorne Thorne's last report to the Local Government Board, to the effect that in the hands of the several vaccinators attached to the Board's Vaccination Department there have been, within a certain term of years, over 81,500 consecutive vaccinations of children, either from arm-to-arm or from calf-to-arm, without the occurrence of a single case of "insusceptibility." And he further records that in the hands of the Public Vaccinator of Reading precisely the same result has been obtained as the result of 14,000 primary vaccinations. The obvious lesson is that insusceptibility must be regarded as all but non-existent when vaccination is performed with fresh lymph in either of the methods referred to, and that it is essentially a product of vaccination with stored lymph. And if the use of stored lymph leads so often to absolute failure at all insertions made, and this on the three consecutive occasions which alone constitute statutory insusceptibility, how

numerous must be the occasions where one or more out of several insertions fail and only a partial protection is granted? Lastly, Dr. Ashby properly protests against the position in which a borough such as Reading with its 60,000 population is placed by the delegation of vaccination to the guardians. Not only have the town council no right of intervention in this matter in their capacity as sanitary authority, but they are actually kept in the dark as to the state of their borough as regards vaccination, and they are without remedy in the matter.

GRAVES'S DISEASE WITH UNILATERAL SIGNS.

IN a recent number of *Gräfe's Archiv für Ophthalmologie* Dr. Percy Fridenburg of New York has described an interesting case of this nature. His paper is abstracted in a recent number of the *Neurologisches Centralblatt*. The patient was a woman aged twenty-four, a member of a nervous family, whose excitability and nervousness were increased by family misfortunes, and who complained of unusual weariness, palpitation, difficulty in breathing, frequent blushing, profuse perspiration, and weakness. The palpebral aperture on the left side was distinctly widened, so that in looking straight forward the sclerotic was visible two millimetres above the border of the cornea. The globe was distinct but not very prominent, Gräfe's sign was present, and vision was normal. The face, especially on the left side, was distinctly red, and with the slightest excitement this became extremely marked. Other symptoms were as follows: Swelling of the isthmus and the right lobe of the thyroid gland, fine fibrillary tremor of the tongue and hand, strong, occasionally intermittent cardiac impulse, accentuated second sound in the pulmonary area, diffuse impulse, increased cardiac dulness to the left, and a loud bruit over the jugular vein. There was no sign of valvular defect, and the pulse was 120. Respiration was superficial. Considerable improvement took place under the influence of rest, strophanthus, and bromide. The case is an interesting example of Graves's disease in which the exophthalmos was one-sided, and the writer has collected out of the literature of the subject as many as thirteen similar cases.

A PLAGUE OF ACARI.

ONE of the weirdest conceptions of the talented writer of "The Time Machine" is the monstrously overgrown centipede putting to flight the degenerate human beings as it comes looping along with armour-plates rattling, its gigantic head towering higher than the tallest elephant. After myriads of years the indomitable insect race, breaking through the fixed limitations of the old dispensation, has at length been rewarded by corporeal growth commensurate with its courage and perseverance, while, on the other hand, pleasure-loving and pain-fearing mortals have degenerated into loathsome pigmies. It is fortunate for the inhabitants of Barfleur that Mr. Wells's blood-curdling vision is referable to the remotest future and that the barrier restraining the potentiality of the insect world not only still remains impassable, but is also likely to continue so for some considerable time to come. With marvellous suddenness an entire quarter of the ancient seaport was recently invaded by a veritable horde of acari, huge in respect of number if not individually, and plenteously endowed with the energetic, not to say aggressive, qualities so greatly belauded by the ingenious Mr. Wells. With persistency worthy of a better cause the minute raiders commenced operations by entrenching themselves securely in furniture and hangings and then sallied forth on marauding expeditions until kitchens, storerooms, and wardrobes were all occupied by outlying parties. Next they attacked the food and clothing, and finally they captured the bodies of the hapless Barfleurians themselves, establishing well-nigh ineradicable depôts wherever the presence of hair afforded them facilities. In one particular alone could it be said that the intrusive mites were deserving of commendation. Contrary to the customs prevailing among certain of their congeners they refrained from burrowing beneath the epidermis of their unwilling hosts, who consequently, as the account now before us has it, remained free from cutaneous lesions. Had the very vigorous invaders taken to sinking tunnels after the fashion of their allies, the Sarcoptes scabiei, the condition of the Barfleurians would have been truly appalling, for even as it was the irritation, mental as well as corporeal, due to their ubiquitous tormentors became so unbearable that the prefect had to be invoked on the principle of the *deus ex machinâ*. Barfleur, however, boasts of a Conseil d'Hygiène, and very naturally the provincial ruler referred the matter to that learned body for investigation and report. The contaminated houses were accordingly noted and disinfected, but the results were negative. Nothing was capable of dislodging the pertinacious and impertinent creatures, which actually seemed to thrive on the means adopted for their repression. At length, tired of the contest, the local authorities appealed to the Natural History Museum of Paris, begging for advice as to the best way of obtaining deliverance from this incubus. In the opinion of the museum *savants* the intruders were closely allied to the acari which are to be met with in places where organic matter is slowly undergoing the process of dry putrefaction—as, for example, in herbaria or on anatomical preparations, stuffed birds, mummies, preserves, dried and candied fruits, &c.—but inasmuch as the precise species could not be determined at a distance an expert would be designated to hold an investigation on the spot. M. Perrier having been selected for the duty consequently proceeded to Barfleur, and after some time succeeded in completely unmasking the enemy. The acarus by which Barfleur has been so seriously disturbed turns out to be the Glyciphagus domesticus, a variety hitherto regarded as extremely rare; but although it might have been thought soothing to the feelings of the victims to learn that their visitors were such distinguished members of the Arachnidæ, they were nevertheless prosaic enough to maintain that the chief matter at issue was how to get rid of them. On this point, however, they were speedily reassured by the museum authorities, who drew attention to the fact, which apparently was outside the ken of the Conseil d'Hygiène, that the sulphur treatment systematically employed is almost infallible. Further interesting details will be found in our Paris correspondent's letter in THE LANCET of May 9th.

PREVENTION OF CRUELTY TO CHILDREN.

THAT admirable body "The National Society for the Prevention of Cruelty to Children" held its annual public meeting upon May 12th at the Mansion House, and we are glad to see that the society is flourishing, although the mere fact of its existence discloses a most lamentable state of things. Sir Richard Webster in moving a resolution pointed out that although the society had an exceedingly difficult task to perform, and although naturally they occasionally made mistakes, yet in the cases which they brought before the courts 96 per cent. convictions were obtained. We have lately commented in these columns upon some specially gross cases of cruelty, and it is gratifying to think how much brutality has been stopped from going further, how many human fiends have been punished and, we hope, made to pause and consider before beginning systematic torture by the operation of this society. We are glad to see that funds are plentiful and that the society has become national, with

a Royal charter, instead of metropolitan. Its objects appeal to every class, a distinction which it shares with perhaps only one other society,' the National Lifeboat Institution. In nearly every other organisation the faddist can find something to cavil at. In most the religious apple of discord comes in, and even in such a matter as strengthening of the navy some well meaning fanatics see harm. But the bringing about the comfort and happiness of a helpless child is a matter which must appeal to everyone. Not that we object to corporal punishment for unruly children, be they the offspring of a duke or a dustman, holding with the remark of a great authority—"Cocker thy child and he shall make thee afraid, but beat him on the sides when he is young lest he wax stubborn and regard thee not." But wholesome discipline is a very different thing from cruelty.

PURCHASE OF THE SMALL-POX HOSPITAL BY THE ISLINGTON GUARDIANS.

THE guardians of Islington have agreed with the trustees of the Small-pox Hospital of Highgate to purchase the hospital with the nine acres of ground in which it stands on the hill for the sum of £52,000. We intimated some weeks ago that this seemed to be the best way for the guardians out of a muddle into which they had been brought by various circumstances and qualities which we need not describe, but which was seriously affecting their reputation as men of business and the interests of the huge number of poor committed to their charge. It is only fair to say that a leading member, who had charged himself with the responsibility of a most inadequate, temporary, and costly scheme, at once abandoned it in favour of purchase of the hospital, and so hastened the termination of a discussion which has lasted for years and has seriously compromised the reputation of the board as regards fitness for the enormous administrative duties which it has to discharge. We can only hope that with this purchase a new spirit of usefulness will prevail and that in the management of the sick poor of the largest parish in the United Kingdom an example of generous economy will be set which will command an extensive following.

VITALITY OF THE DIPHTHERITIC BACILLUS OUT OF THE BODY.

FLUGGE in his *Grundriss der Hygiene*, published in 1889, stated that the microbes of diphtheria retained their virulence for ten days in the form of dust and from four to six weeks if dried in dense layers; but in a paper on the means by which the disease is spread, which appeared in the *Archiv für Hygiene* in 1894,[1] he expresses his incredulity as to aerial diffusion of diphtheria beyond the range of personal intercourse on the ground that the degree of desiccation required for the floating and conveyance of the bacilli in currents of air would be fatal to them. Roux and Yersin and Pernice and Scagliosi had carried out some experiments with portions of the membrane, but Carlo Reyes, deeming these unsatisfactory, since it was not by such means but rather by the saliva, mucous discharges, and similar fluids that the infection took place, undertook an inquiry into the subject, using pieces of linen or cotton, silk, paper, sand, and finely pulverised and sifted earth, which he saturated with emulsions in water of pure cultures of great virulence. These materials were allowed to dry spontaneously and were then exposed to light or were kept in darkness in air of the normal humidity at ordinary temperatures, or maintained in a state of saturation; and in atmospheres artificially dried by H_2SO_4 or kept at a constant temperature of 37° C. His results, which appear in the *Annali d'Igiene Sperimentale*,[2] show that in chemically and absolutely dried air Löffler's bacilli died in all cases within a few hours, forty-eight at the most; that light had, as a rule, but little influence; that under other conditions they retained their vitality on silk and paper for a few days only in dry, and for about a week in moist, air; on cotton or linen for from five to eighteen days, longer when moist than when dry; in sand, exposed to light and with a dry atmosphere for five days only, but, in darkness, for sixteen or eighteen days, and as long again with a moist atmosphere; while in fine earth they retained their vitality for from 75 to 105 days in dry air and were still active in damp air after 120 days. He also exposed vessels of water at different heights above the floor to dry dust containing living microbes raised by draughts produced by mechanical means, with the result that cultures were successfully obtained from most, thus demonstrating not only the possibility of the aerial diffusion of the virus for various periods, but its persistence in moist earth for an almost indefinite time. Though, as a rule, he observed a progressive attenuation of the virus, the fact that in moist earth, which had previously been desiccated so as to permit of its reduction to an impalpable powder, the microbes were still living after the lapse of 120 days suggests the possibility of their permanent existence and reproduction in soil charged with pabulum in the form of decomposing organic matter; in other words, that diphtheria may be one of those filth diseases in the life-history of whose microbes their parasiticism is an accidental stage.

[1] Band xvii., p. 403.

"THE PLAINS OF AUSTRALIA."

THE place occupied by Australia as a health resort makes Mr. Boxall's article on "The Plains of Australia" in the *Contemporary Review* interesting to medical readers. "The mammals of Australia," says the writer, "represent the early tertiary or kainozoic age, and it may be reasonably assumed that the land in which they dwell afforded, in its original condition, before it was brought under the influence of the white man, an excellent opportunity for estimating what the condition of the earth was in other continents during the marsupial era or before the evolution of the great ruminant families." In the early days of Australian colonisation the land in the plains of the interior was regarded as "rotten," and the opinion was generally held that it would never be fit for occupation. But on these vast plains a hundred million of sheep are now pastured besides large numbers of cattle and horses. There is a consensus of opinion that when the early explorers penetrated to these plains they found them barren and inhospitable, almost utterly waterless, practically without inhabitant, and the soil so soft and insecure that horses and carts sank deeply into it. But these plains—or at least those portions of them which lie on the edge of the settled districts—are now talked of as the future granary of Australia when the proposed irrigation schemes are completed, and the change, in Mr. Boxall's view, is simply due to the trampling of innumerable sheep and cattle. It is believed that a range of mountains once stretched across the Australian continent from east to west, and that it has disappeared by denudation, the material of which it was composed having been slowly carried away by flood waters and deposited as sediment over vast areas. "In other lands where similar deposits were formed they were trampled down and consolidated, stratum by stratum, by herds of elephants, camels, llama, buffalo, bison, oxen, sheep, deer, and other highly gregarious animals. In Australia the kangaroo was incapable of performing a similar work. The kangaroo is not gregarious to

[2] Vol. v., 1895.

the same extent as the sheep or deer. Out on the plains only four or five are seen together even now. Before the advent of the white man with his flocks and herds the kangaroo only ranged in the neighbourhood of permanent water where the land was firm enough to support him. No doubt, when he was driven out on the rotten ground by dog or man, the great bird-like claw on his hind leg afforded a better support than the hoof of the sheep or bullock. The great strength capable of being exerted in the hind leg of the kangaroo would also enable him to extricate himself from a bog more easily than animals of a higher type of development. His short forepaws would be useful in 'clawing' himself along over rotten ground. But kangaroos do not follow each other and make tracks, and this is how the sedimentary deposits of the Ganges, the Nile, the Amazon, the Mississippi, and other deltas have been principally consolidated and compacted." The "rottenness" of the soil of the Australian plains in the early days of colonisation is shown by such facts as that a walking-stick could be thrust its full length into what looked like solid earth without using any special effort, a horse or bullock sunk up to his belly in the soil, and a full-woolled sheep could not extricate itself but had to be rescued. While this condition of things lasted the land was not flooded, as the waters sank into the porous earth and left their sediment resting lightly on the top. It is believed that these waters escape somewhere to the ocean, and in the Mount Gambier district water has been found running in underground channels at the rate of four or five miles an hour. Irrigation is alone required to make the Australian plains productive. "The plains of Australia," concludes Mr. Boxall, "are singularly alike, and if the plains of Northern and Western Australia can be consolidated by the trampling of stock, as I believe those of the eastern districts have been, the time is not far distant when the word 'desert' may be wiped off the map of Australia, and the true character of its vast plains become more generally understood and appreciated."

"PSEUDO-ACTINOMYCOSIS."

IN the *Russian Archives of Pathology, Clinical Medicine, and Bacteriology* Dr. T. G. Savchenko relates an interesting case of what, clinically speaking, was actinomycosis, but which differed from ordinary forms of this affection in its pathological course. Dr. Savchenko has seen several cases in Kieff and all except this one were due to fungi as ordinarily described. The patient was a peasant thirty years of age who had passed through his period of military service and had afterwards worked in the fields, being, in fact, in robust health until his illness began, which was about May, 1893, when he began to feel pain in his back. Subsequently a tumour appeared on the left side of the chest, which ultimately burst the skin and discharged large quantities of pus. When admitted into the St. Cyril Hospital, Kieff, in September, 1893, the tumour—which extended from the sternum to the left axilla and from the clavicle to the fifth intercostal space—was firm and covered by bluish-red skin. There were four sinuses with everted discoloured edges, from which pus with a peculiar disagreeable smell was discharged, together with a large number of whitish granules. There was but little cough and no sputum. The lungs gave no indication of disease and the urine was free from albumin and casts. New abscesses continued to form in the part affected and more than one operation was performed, but by April, 1895, the patient was discharged practically cured. The unpleasant-smelling pus was present throughout the whole course of the disease. It was significant, too, that the granulations occupying the sinuses were of a brown colour, very easily broken down, and contained a large quantity of blood. The chief interest of the case lies in the microscopic and bacteriological examination. When examined with low powers the granules did not look unlike those of actinomycosis, but when high powers were used it was seen that they were totally distinct, being, in fact, zooglœa made up of numbers of bacteria differing from one another in size. Bacilli were also contained in the pus apart from the granules, some being free and others within leucocytes. The bacteria were all stained by aniline colours, but not by the Gram stain. When isolated they were found to be absolutely anaerobic and never formed colonies on the surface of nutrient media. In glycerin jelly isolated granules were formed consisting of bacilli. A rabbit inoculated with a pure culture always presented an abscess in which the same bacilli, sometimes massed in zooglœa, were found, and always had the specific smell which was noticed in the patient and which was always present in the cultures. Dr. Savchenko proposes for this affection the term "bacillary pseudo-actinomycosis."

IMPROVEMENTS IN THE NEW PHOTOGRAPHY.

WE mentioned three weeks ago some experiments which we made with some sensitised metal plates submitted to us by Mr. Strauss Collin of Bush-lane House, Cannon-street, E.C. We have since obtained excellent results with these in THE LANCET Laboratory. They are developed in the ordinary way, using "rodinal" preferably as a developer, and fixed in the hyposulphite bath. Very thorough washing is the next step. The image which first appears on developing vanishes in the hyposulphite solution. When the plate, after washing, is, however, placed in a solution of perchloride of mercury the image reappears with great distinctness and with excellent detail. For medical work the employment of these plates offers undoubted advantages. Thus the thin sheeting upon which the sensitised film is spread may be adapted to any shape, and, unlike glass plates, is not easily fractured, so that it may be placed under the body of a patient without risk of breaking. Moreover, as will be gathered from the foregoing description of the process of development, a positive not unlike a ferrotype is at once obtained. The "tones" are good and the plates fairly rapid, the exposure we adopted in the case of the ankle being three minutes.

EXCITABILITY OF NERVES AFTER SECTION.

IN the *Archives de Physiologie* a paper by Arloing recently appeared in which were detailed a number of important experiments in reference to the duration of the excitability of the peripheral end of a cut nerve in warm-blooded animals. An abstract of this paper was published in the last number of the *Neurologisches Centralblatt*. Waller and Ranvier showed long ago that in pigeons and rodents excitability rapidly disappeared—in the course of two or three days. Arloing has investigated this variation very carefully, and according to his experiments the excitability of the peripheral end of the cut facial nerves in ungulates disappears in from eight to ten days. Microscopical examination of the nerve at this period shows disintegration of the myelin into drops in places, while at other parts the myelin is intact or shows only some irregularity of its borders. The individual differences are very striking. Thus in one case the peripheral end of the facial nerve was found excitable thirty days after section. In the same individual also the different nerves showed different conditions. Thus in a dog the facial nerve was excitable at its peripheral end five days after section, while at this time the median nerve was not excitable. As a rule the excitability of the cranial nerves took longer to disappear than that of the spinal nerves. In the same nerves also the different bundles lost their excitability at different periods. For

instance, in the vagus the inhibitory nerves of the heart died first, next the motor nerves for the œsophagus and larynx, while the accelerator fibres for the heart lost their excitability distinctly later, and last of all to die was a peculiar bundle, excitation of which brought about arrest of the heart in systole. This is the bundle which Arloing has already described as the "ordinary motor nerve of the heart muscle."

SIR JOHN MILLAIS.

IN view of the many unfounded rumours which are rife concerning the condition of Sir John Millais we think it right to state that the condition of affairs is as follows. On the night of Saturday, May 9th, urgent dyspnœa set in. This gradually increased, and early on Sunday morning Mr. Treves, assisted by Mr. G. H. Hames, considered it necessary to perform a tracheotomy. Sir John Millais was much relieved by the operation and has since gone on well. He sleeps well, and there are no chest complications. In addition to Mr. Treves and Mr. Hames, Sir Richard Quain is in attendance.

THE MEDICAL OFFICER OF THE ADMINISTRATIVE COUNTY OF LONDON.

THE average ratepayer is apt, and with good reason, to kick against the constantly increasing expenditure of the London County Council. But we fancy that the increase in the salary of the medical officer, Mr. Shirley Murphy, from £1000 to £1250 will meet with nothing but approval. The medical and hygienic work of the London County Council is enormous, and the admirable way in which Mr. Shirley Murphy and his assistants direct it is well known. We are glad to see that an amendment to increase the salary to £1200 by an annual rise of £50 was negatived and the committee's original recommendation carried by 70 votes to 31.

PREVENTION OF HÆMORRHAGE IN DISARTICULATION AT THE HIP-JOINT.

AMPUTATION at the hip-joint has always been accompanied by a very high mortality, and two causes especially can be assigned to this great death-rate—namely, infection and shock. The deaths due to infection are now much less frequent than they were in the pre-antiseptic days, but shock still remains responsible for a very large proportion of deaths. A great part of this shock is caused by the large amount of blood which is so often lost at this operation, and many attempts have been made to diminish the hæmorrhage. One of the most recent methods was brought forward by Dr. V. Chalot, Professor of Clinical Surgery at the Faculty of Medicine of Toulouse, at the Huitième Congrès de Chirurgie, held at Lyons. He suggests that a slightly curved incision, four or five centimetres in length, should be made about two centimetres internal to the anterior superior iliac spine, and the anterior abdominal muscles then divided, so that the peritoneum can be gently raised from the iliac fossa. When this is done the common iliac artery can be felt on the inner border of the psoas muscle. An assistant places on the artery the tips of the middle and ring fingers of the left hand for the right side of the patient, and of the right hand for the left side, at the same time grasping the iliac crest with the forefinger and the thumb, while the little finger rests on the abdominal wall. The compression is made against the ala of the sacrum, and its efficacy is judged by the cessation of the femoral pulsation. The amputation is then proceeded with in the ordinary way. Dr. Chalot quoted a case in which he had employed this method with success, and with only a small amount of hæmorrhage.

THE HEALTH OF SIR J. RUSSELL REYNOLDS.

THE news which was announced at the beginning of the week of the serious illness of Sir J. Russell Reynolds came as a surprise to all but a few who were very well informed. His request that he should not be re-elected as President of the Royal College of Physicians of London might have been taken as a preparation for the bad tidings, for he was not the man to escape responsibilities that he had once accepted until it had become clear to him that to burden himself further with them would be wrong. But his indisposition was so ill defined and the absence of important indications of any organic mischief so entire that the serious symptoms which set in last Saturday night were as unexpected as alarming. But they were not without a definite cause. Sir J. Russell Reynolds had improved under rest, care, and change of air, but on April 23rd, after seeing some patients at home, he returned from a drive, and in alighting from his carriage slipped on his own doorstep. This accident, unfortunately, caused him to be confined to bed, and consequent on the shock and increasing weakness pulmonary complications supervened. We are very glad to be able to announce that a slight improvement, shown by the abatement of temperature and the diminished frequency of respiration, which took place on Monday has been maintained; and although the patient's condition is still one to cause the deepest anxiety, his medical advisers now allow us to hope that the rally is perhaps not temporary but the commencement of a return to strength. Dr. Barlow and Dr. Buzzard have seen Sir J. Russell Reynolds regularly with Mr. Cooper Bentham, who has been in constant and assiduous attention. Dr. Wilks and Dr. Gowers have also seen Sir J. Russell Reynolds in consultation.

THE annual general meeting of the Pathological Society of London for the election of officers and council, and other business, will be held at 20, Hanover-square on May 19th, at 8.30 P.M. Mr. Stanley Boyd will propose the following resolution: "That in the opinion of this meeting it is expedient that ladies, who are duly qualified medical practitioners, should be eligible for the membership of this society." The result of the voting on this motion will be awaited by the profession with no little interest and curiosity. By the way, why do not the ladies unite to form a medical society of their own? Some doubt seems to be felt as to whether the medical societies will follow the example set them by the British Medical Association.

MR. CHAMBERLAIN has been informed by telegram from the Governor of Hong-Kong that seventy-four fresh cases of bubonic plague occurred in the colony in the week ending May 12th, and that the number of deaths from the plague in the same period was sixty-four.

DR. GEORGE OLIVER will deliver the Croonian Lectures—A Contribution to the Study of the Blood and of the Circulation—at the Royal College of Physicians of London, Pall Mall East, on June 2nd, 4th, 9th, and 11th. The lectures will commence at 5 P.M.

DR. JOHN ANDERSON, C.I.E., M.D. St. And., F.R.C.P. Lond., Physician to the Seamen's *Dreadnought* Hospital, has been appointed Lecturer on Diseases of Tropical Climates at St. Mary's Hospital Medical School.

MR. A. PEARCE GOULD has been appointed Surgeon to the Middlesex Hospital.

THE annual dinner of old students of King's College,

London, will be held at the Holborn Restaurant on Monday, June 29th, Sir Benjamin Baker, K.C.M.G., LL.D., F.R.S., President of the Institution of Civil Engineers, in the chair.

Pharmacology and Therapeutics.

PHARMACY IN JERSEY.

WE have received a copy of the proposed Bill to Regulate the Practice of Pharmacy and the Sale of Poisons in Jersey, and cordially welcome it as an effort to put the work of the druggist there more in line with the conditions which control the practice of pharmacy in this country. The Bill provides for the proper qualification of those acting as chemists or druggists, but the qualifications recognised include those of the Schools of Pharmacy of the University of France in addition to those granted by the Pharmaceutical Society of Great Britain or the Pharmaceutical Society of Ireland. A register is to be kept of all those to whom permission to practise has been granted, and it is to state the title or qualification in each case. To prevent hardship the new Act will not apply in these respects to those chemists and druggists who are already practising in Jersey. A further act of grace enables the legal representatives of a chemist or druggist who has practised his profession in the island to continue the business after his death, but it necessitates the employment of an assistant who is in all respects qualified and authorised to act as a chemist and druggist. Provisions which closely follow those in force in this country safeguard the sale of poisons, whether wholesale or retail, and the Bill includes a list of poisons, and the usual precautions are taken to prevent the sale of the more active and dangerous poisons to minors aged less than sixteen years or to persons unknown to the vendor. It is satisfactory to find that preparations used or sold for the destruction of vermin are included in this list. Medicines containing a poison or poisons prepared by a medical man, or by a chemist or druggist when prepared after a medical prescription, are exempt from the restrictions ordinarily affecting the sale of poisons, provided that a copy of the prescription is kept by the vendor. Nothing is said in this connexion of the importance of marking the prescription with a date each time it is brought to the druggist, a small precaution which would be for the public safety in dealings with poisons. The concluding articles of the Bill refer to the penalties incurred by contraventions of the regulations. The proposed Act is so liberal in dealing with vested interests and so essential for the protection of the druggist and the public that it should meet with no opposition and but few amendments.

ELDER BARK AS A DIURETIC.

M. Lemoine, Professor of Clinical Medicine in the Medical Faculty of Lille, has recently revived the practice of employing the elder (sambucus niger) as a diuretic. Some years ago he was much struck with the efficacy of a decoction of elder bark in a case of general anasarca with pulmonary œdema and ascites due to subacute nephritis in which several ordinary diuretics had failed. The first day of the treatment by elder the urine, which had been very scanty, rose to 400 grammes, the next to 1500 grammes, and at the end of a week's treatment to 3500 grammes. Since that time M. Lemoine has had occasion to use this remedy frequently for œdema or ascites due to heart or kidney troubles, and it has almost invariably been successful in increasing the quantity of urine passed. At his request Dr. Combermale has made a series of experiments on animals. He finds that infusions and decoctions of the inner bark are more active than those of the outer bark. Latterly M. Lemoine has employed an alcoholic extract of the inner bark, sometimes prescribing it alone, sometimes alternately with digitalis or caffein, the effects of which it serves to prolong and increase. There do not seem to be any distinct contra-indications to its use and it does not produce any unpleasant head or lung symptoms. It may, however, sometimes cause diarrhœa or increase it if already existing.

POISONING WITH PIPERAZINE.

In the American *Medical News* Dr. Slaughter of Philadelphia relates the case of a young married woman aged thirty-two who, through a druggist's blunder, received one dose of piperazine of twenty grains. Some hours later, when the patient was seen by Dr. Slaughter, she was much cyanosed and in a serious comatose condition. The pupils were much contracted, the pulse gave 50 beats to the minute, and the temperature was 97·4° F. The respirations also were slow and there was low muttering delirium. The tips of the fingers were cyanotic and there was loss of motion but not of sensation in the lower limbs. Cardiac and other stimulants were at once energetically used, while the limbs were elevated and external heat was applied. A stimulating rectal injection was also given and the catheter was used. There was paraplegia, afterwards treated by massage and large doses of strychnia. Recovery was perfect.

APOCYNUM CANNABINUM.

Apocynum cannabinum, which in America is called Indian hemp, has long been used as a diuretic and indeed is included in the United States pharmacopœia. Its value in general dropsy due to renal disease gained for it the name of "the vegetable trocar" from Dr. Rush.[1] Its physiological properties have recently been investigated by Dr. Dortschewski, who agrees with American observers that the most active portion of the plant, from a pharmacological point of view, is the cortex of the root. An extract was prepared from this and diluted with from ten to twenty times its volume of water. Less than 100 cubic centimetres of this diluted extract was sufficient to kill a medium-sized dog. The effect was to increase the blood pressure and to cause the heart's beat to become at first slower, stronger, and reduplicated, but subsequently rapid and irregular until the animal died. The effects were due to the action of the drug on the motor centres of the brain and spinal cord, the slowing of the pulse being caused by the stimulation and its rapidity by paralysis of the pneumogastric centres. The increased blood pressure, too, was due to the contraction of the peripheral arteries from central action. In clinical practice it was found that patients with cardiac mischief could take from five to ten drops three times daily with marked advantage. Larger doses were apt to cause nausea and vomiting.

ESSENTIAL OIL OF GARLIC IN PHTHISIS.

Dr. Séjournet of Revin communicates to the *Union Médicale du Nord-Est* some account of the effects he has obtained by treating phthisical patients with garlic. The preparation he used was the essential oil of garlic, that is to say, the sulphide of allyl, which he mixed with 200 times its weight of sterilised olive oil, the mixture being called by him "scoradine." A cubic centimetre of this was injected under the skin below the spine of the scapula, at first at intervals of some days and afterwards when the patients were able to tolerate it every day. Under this treatment the general condition improved in a marked degree and the local signs of the disease became modified. Sixteen patients have been treated in this way with excellent results.

[1] See THE LANCET, March 13th, 1886, p. 508.

THE HEALTH SECTION AT THE CARDIFF EXHIBITION.—The Cardiff Exhibition, which was opened by Lord Windsor on May 2nd, contains an interesting health section, the exhibits of which have been so numerous that the committee have had to nearly double the extent of the accommodation. It contains several sanitary appliances, and amongst other features may be mentioned the various processes adopted for freezing meat and the destructive distillation of wood. A model hospital is fitted up and the daily working and routine is shown. It is proposed to give a series of lectures on 'First-aid" in connexion with the St. John Ambulance Association. In another section scientific instruments are shown, and although the space is very limited the committee, of which Mr. E. T. Collins, M.R.C.S. Eng., is secretary, have succeeded in bringing together an interesting collection. The profits of the exhibition, on which £100.000 has been expended, will be divided between the Cardiff Free Museum, the Free Library, and the charities of the town.

THOMAS WAKLEY,

THE FOUNDER OF "THE LANCET."

A BIOGRAPHY.[1]

CHAPTER XIX.

The Offensive By-law.—Its Effect on the Private Schools.—More Letters of "Brutus."—The Sorest Point with the Members.—Dr. John Armstrong's Pamphlet.—A General Meeting of the Profession suggested.

ON March 19th, 1824, a manifesto was issued from the Royal College of Surgeons of England, which was stated by the authorities of the corporation to have been promulgated "in pursuance of the duty of the Court of Examiners." This manifesto contained the by-law to which allusion was made in the previous chapter and which was found by Wakley's reforming spirit as well as by his personal interest to be so very offensive. The wording of the by-law was as follows:—

"That certificates of attendance at lectures on anatomy, physiology, the theory and practice of surgery, and of the performance of dissections be not received by the Court except from the appointed professors of anatomy and surgery in the University of Dublin, Edinburgh, Glasgow, or Aberdeen, or from persons teaching in a school acknowledged by the medical establishment of one of the recognised hospitals, or from persons being physicians or surgeons to any of these hospitals."

As has been said, Wakley's first objection to this by-law was that it conferred on the metropolitan hospital surgeons and lecturers an increased authority. It virtually gave them a complete monopoly in the surgical education of the London student, and this at a time when Wakley was attempting to show in the columns of THE LANCET, and making a very successful attempt also, that the metropolitan hospital surgeons were selected upon corrupt principles, and that no one therefore need be surprised if they should be found unable to discharge their duties properly either towards the sick, the student, or the public. From discussing the by-law from this point of view such a disputant as Wakley was bound to pass almost immediately to its more general consideration. We find him at once discussing the *personnel* of the Court of Examiners and the methods which had dictated their election until, by swift retrogression, he reaches the constitution of the College.

The Court of Examiners who had "pursued their duty" in issuing this by-law was constituted as follows:—Sir Astley Cooper, Mr. Abernethy, Sir Everard Home, Sir William Blizzard, Mr. Cline, Sir David Dundas, Mr. Forster, Sir Ludford Harvey, Mr. Lynn and Mr. Norris; and every one of these gentlemen was a past or present lecturer at a hospital school, and directly or indirectly a pecuniary beneficiaire under the working of the new law. The real purpose of the objectionable by-law was, in fact, to aggrandise the hospital surgeon. It was not only that it placed the exceedingly lucrative post of lecturer at his disposal, but it gave him a monopoly. He was not put into competition with the outside lecturers. Here Wakley's personal feelings no doubt dictated his inimical view. He was himself, as we have already said, largely educated at a school, the Webb-street School, attached to the Borough Hospitals, but only informally. Most of the students at this school were young men who were walking the wards of Guy's Hospital or St. Thomas's Hospital, but they were not compelled to take out their anatomy course with the Graingers, who conducted the Webb-street School; on the contrary, at Guy's Hospital Mr. Aston Key and Mr. Bransby Cooper were lecturing in anatomy; while at St. Thomas's Hospital Mr. Joseph Henry Green and Mr. Flint South were prepared to instruct the student in the same subject; and, as an additional facility to the student of the Borough Hospitals, if he had paid his fee as a perpetual student at the school of either hospital he could attend whichever anatomical course he chose. In spite of the embarrassment of riches that is suggested by a choice of four authorised demonstrators at the regular schools it was a fact that the majority of the Borough students joined the Webb-street School, as Wakley had done, for the brothers Edward and Richard Grainger—exceedingly able anatomists—had a reputation as instructors that entirely put in the shade that of the four members of the combined staff of the Borough Hospitals. Consequently many fees found their way to Webb-street that should have gone to the Borough Hospitals. Now the by-law would prevent this. It would make the brothers Grainger mere coaches, whose certificates of attendance had no real value. Similarly, Mr. Joshua Brookes, of the Theatre of Anatomy in Blenheim-street, and Mr. Carpue, whose headquarters were at Dean-street, also in Soho, were deprived of their status as official lecturers.

Now, these men, like the Graingers, were among the finest anatomists in England, and instructed the majority of the students at St. George's and Middlesex Hospitals and many from other less adjacent schools while of the four hospital lecturers Mr. Green alone could be considered a first-class anatomist. Curiously enough Mr. Green's class suffered most under the system of free trade, for the competition of the Graingers, who had more to offer and at a lower figure, had told so severely upon the St. Thomas's School that, according to Wakley, who was in the habit, it must be remembered, of constantly attending the lecture-rooms of all the schools, public and proprietary, Mr. Green's post was becoming a sinecure. This struck Wakley as in no way regrettable, and merely a very proper example of the survival of the fittest, (though the phrase had not then been coined). Therefore he saw in the by-law an unfair attempt to bolster up the incompetent hospital official and give him a monopoly in a lucrative business which he had not had enough wits to keep by his own exertion in fair competition. The hospital official had, in short, to be protected against the outside lecturer. Furthermore, Wakley considered that the authorities of the Royal College of Surgeons of England had betrayed their position by thus sanctioning a piece of legislation so wholly in the private favour of hospital surgeons and so inimical to the interests both of their commonalty and of the students from whom their coffers were repleted. For it must be remembered that not only were the outside schools cheaper to attend, but they were open all the year round, while the anatomical lectures at the hospitals were only delivered during the winter season. The evils arising from a measure condemning the students to attend the lectures of the hospital officials only were, said Wakley, twofold—unnecessary delay and increased expense, for they would be compelled to spend more time in London. He did not consider it reasonable that every student should be put to an expense of over £100 in order to pour money into the pockets of the gentlemen from whom the Court of Examiners were chosen—viz., the hospital lecturers—and whose by-law in their own interest the College was asked to ratify. He expressed his opinion both with voice and pen that the profession as a whole should petition Parliament to abrogate the existing Charter and grant a new one, in which it should be a fundamental principle that any

[1] Chapters I., II., III., IV., V., VI., VII., VIII., IX., X., XI., XII., XIII., XIV., XV., XVI., XVII., and XVIII. were published in THE LANCET, Jan. 4th, 11th, 18th, and 25th, Feb. 1st, 8th, 15th, 22nd, and 29th, March 7th, 14th, 21st, and 28th, April 4th, 11th, 18th, and 25th, and May 2nd respectively.

person to whom the power was given of making by-laws should be elected by the whole body of Members and not by each other, as was the case with the Court of Examiners. This was the course of events which led Wakley to inquire into the constitution of the College, to print its charter, and to promise to spare no pains to make clear to the medical profession that he considered the existing authorities of the College to have abused their position. These are the stages by which he passed from a habit of criticising the College as the stronghold of his declared foes, the hospital surgeons, into a deliberate intent to show it as a constitutionally rotten concern, badly behaved, and of evil pedigree.

During the year 1825 letters from "Brutus" were inserted several times and always showed the intimate knowledge of the constitutional history of the Royal College of Surgeons of England that the communication from the same pen which has already been quoted so obviously displayed. The College, "Brutus" maintained, had virtually formed itself out of the old company without any consultation with the Members—i.e., the commonalty—and the spirit of exclusiveness thus immorally and even illegally shown had been imported into the management of the new corporation. The Court of Assistants and Examiners of the Royal College of Surgeons of England, who were placed by the Charter in the position of trustees for the members of the corporation in general, were found to have abused their trust in every direction. Presented by Government with Hunter's splendid anatomical collection, the Museum had been at once rendered by stupid restrictive regulations inaccessible to the Members for eight months in the year, while no attempt to make it more useful to students by supplying a descriptive catalogue had been entered upon. The great John Hunter's work had been accepted by the Court because it was worth a large sum of money; they at once proceeded to render it valueless by withdrawing it as far as possible from all chances of intelligent notice. The Library, which it was often promised should be thrown open to the Members, had been kept for the sole use of the Court of Assistants. The pecuniary status of the College, which was concealed from the Members, whose fees were taken and nothing rendered them in return, was laid bare by "Brutus." Since the year 1797 the receipts of the College upon a moderate calculation must have exceeded £150,000, and of this sum £32,000 must have been appropriated to the private use of the examiners, so that the concealment of the auditors' accounts had obvious reason. The Members who really supported the College entirely by their fees were excluded from all voice in their own affairs; they were obliged to obtain certificates before being examined from certain persons especially chosen by the College for reasons other than their merits; and, lastly, they could only enter their own building by the back door at stated hours.

The publication of these letters aroused great excitement in the profession, and many communications were written to THE LANCET and privately to Wakley in a similar strain, some enlarging on one grievance and some on another, but all persistently dwelling upon the last two in the category extracted from "Brutus's" bitter epistles. It was an impertinence that every Member felt personally that he should be sent round to the back door of his own College; while the greediness and injustice of the by-law with regard to the certificates of attendance at lectures was very keenly felt by many. In particular the pettiest grievance of all, the fact that the front door of the building in Lincoln's-inn-fields was closed to them rankled in the breasts of the Members. From all parts of England the general practitioners wrote to Wakley to complain of this impertinent distinction between themselves and men whose only claim to superiority was in many instances to be found in their relationship to some inept hospital surgeon or the longer purses of the parents who provided them with education. Some of them thought that the history of the Charter was discreditable, and many of them grumbled at the large fees that were exacted from them, but all who put pen to paper on the subject of their College—and it was a large number—based their support of a reforming movement chiefly upon their intention to obtain the right to go into their own College by the front door. One such letter is worth printing if only that it contains a tribute of personal respect that might have inspired Mr. Sampson's opinion of Mrs. Wilfer. "With every sentiment of respect for you, you know, ma'am—vipers really doesn't do you credit," said that *naïf* gentleman, it may be remembered, to his future mother-in-law; and Mr. James Morss Churchill wrote with something of the same simplicity to Sir Anthony Carlisle:—

To Sir A. Carlisle.

SIR,—When you delivered the Hunterian Oration two or three years ago I was one of your hearers, and was exceedingly gratified by it; and it is out of no personal disrespect to you either as a man or as a surgeon that I signify to you my intention of not being present at the next anniversary; for, independently of the detestation with which I view the various disgraceful and arbitrary acts which proceed continually from the corporate body of the College of Surgeons, I consider it extremely degrading to pass down Portugal-street, celebrated only for its stables, butchers' shambles, and dirt, that I may enter the *back* door of a building which has a handsome portal, through which pass none but a self-elected body of about twenty individuals and some of their very particular friends.

I for one protest against such uncalled-for distinctions and thus set an example which I trust will be followed.

I am, Sir, your humble and obedient servant,

JAMES MORSS CHURCHILL.[2]

In the meantime Wakley and his correspondents in THE LANCET were not the only critics of the action of the College of Surgeons in issuing the by-law concerning certificates for students. A pamphlet had been published by a Dr. John Armstrong dealing very roughly with the action of the College in issuing the offending by-law. Dr. John Armstrong was lecturer on the Principles and Practice of Physics at the Webb-street School, where the brothers Grainger were the proprietors and chief lecturers, so that his opinions could not be considered unbiased. The Graingers were the persons most clearly aimed at by the by-law—or rather, to those who believed that the motives of the Court of Examiners in making such a by-law were wholly corrupt the Graingers must have seemed to be the particular individuals most hardly used; therefore their colleague's opinions were necessarily received with caution. Another intimate friend of Dr. Armstrong, a Mr. Bennett, was also a well-known lecturer whose certificates were rendered valueless by the new regulations, and his case is quoted in the pamphlet as one of particular hardship. Dr. Armstrong's work was, therefore, regarded by the College as the outcome of mere partisanship. Wakley said that he saw no reason whatever to doubt the purity of his motives; his only criticism of his ally was that the view taken up by Dr. Armstrong was too narrow. Dr. Armstrong in his pamphlet contented himself with insisting upon the hard measure that had been dealt out to a number of worthy persons, whose income was largely derived from students' fees, by making their lectures practically useless as part of the surgical education of the future Members of the College of Surgeons; while Wakley looked upon this as only a minor point, the larger question being present to him by this time—viz., how the constitutional reform of the College from top to bottom, from hall porter to President, could be best effected. But Dr. Armstrong's pamphlet had its outcome. It placed

[2] THE LANCET, Feb. 11th, 1826.

the *pros* and *cons* of one point, if a small one, before a large number of persons, and prepared their minds for the developments now imminent.

Week after week the necessity for reform was urged in THE LANCET. The language might differ, but the sentiments were always the same. The result of these repeated and categorical accusations as well as of the letters of "Brutus" and Dr. Armstrong's pamphlet was to bring to Wakley an enormous mass of letters, showing that the dissatisfaction of the commonalty of the College with their rulers was very real and very widespread. As soon as this evidence reached him that the time was rife for organised resistance he placed himself in the van. Hitherto, as has been said, his opposition to the junto at the head of the College business had been largely a part of his general crusade against the management of the metropolitan hospitals, but when he saw that a large number of his readers were deeply stirred by the wrongs they had received at the hands of the Royal College of Surgeons of England his treatment of the subject became more serious and much more comprehensive. Instead of seeing in the abuses at the College a mere confirmation of the fact that self-elected rulers—whether presiding at lecture-room, operating-table, or examining board—were under strong temptations not to do their duties, as they were answerable to no one but themselves and all were in the same boat, he became aware that the profession at large was deeply moved at the way in which they were treated and in which the College of which they were mostly members was governed, and he pledged himself to a definite course—namely, to the procural by all constitutional methods of agitation of some measures of redress. In January, 1826, a suggestion was made in THE LANCET that a meeting of the profession should be held to determine on a plan of campaign, the suggested course being to petition the Crown to grant a new Charter or to appoint a Royal Commission to inquire into the working of the Charter granted by the late King in 1802.

(To be continued.)

ANNUAL REPORT FOR 1894 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.

III.[1]

THE duties of supervision which devolve upon the County Council in respect of sanitary administration over the entire area governed by the forty-three metropolitan vestries necessarily occupy very much of the attention of the Council and find almost constant employment for its Public Health Committee. In their endeavours to secure that the conditions under which milk was sold during 1894 in London were such as would prevent risk of contamination difficulties were frequently experienced by the committee from itinerant milk vendors. These persons sell milk in the streets during the day and in the evening take what remains to their homes, often consisting of single rooms, where the conditions are but little conducive to cleanliness. In such rooms, the means for washing or scalding milk-cans being absent, any remaining milk is allowed to stand in the cans through the night, exposed to the foul atmosphere of a crowded sleeping apartment, and is distributed next day mixed with the morning's fresh supply. These hawkers are migratory in their habits and their homes can with difficulty be found; they generally contrive to evade registration. Offensive trades come in for a large share of the inspector's attention—the businesses of cattle slaughterer, knacker, marine-store dealer, brick-burner, and gas manufacturer being mentioned in the report as having received special attention during the year. The condition of the Regent's and Grand Junction Canals was brought prominently before the Council, but little amendment seems to have hitherto been effected because of the adverse opinion of counsel as to the legal powers of the authorities concerned. A considerable number of schemes were either initiated or advanced a stage during the year under Parts I. and II. of the Housing of the Working Classes Act in respect of unhealthy areas. The committee were actively engaged in dealing with questions of the reconstruction and rearrangement of the Boundary-street area and in contributing to the expenses of schemes under Part II. of the Act, undertaken by the various sanitary authorities. In particular, progress was made during 1894 in dealing with improvement schemes connected with Brooke's-market, Holborn, Ann-street, Poplar, and Mill-lane, Deptford, all of which had been previously sanctioned by the Council. The Millbank Prison site, consisting of about ten acres of land, was also purchased by the Council at the price of £2500 per acre for the purposes of Part III. of the Housing of the Working Classes Act. Three hundred and seventy-six presentations were made during the year in respect of houses unfit for human habitation. In all cases orders were obtained for the closing, demolition, or improvement of these properties, and only 12 cases remained undealt with at the end of the year. The Public Health Committee devoted much attention to the question of workmen's train service in the metropolis. At a conference of representatives of the railway companies an attempt was made to secure an extension in the time of arrival of the workmen's morning trains at the termini and also the removal of existing restrictions against the use of return workmen's tickets except by special trains and after certain hours. Having failed in their attempts to obtain more than trifling concessions from the companies, the committee reported that further Parliamentary inquiry was necessary in order to settle whether any and what amendments were required in the Cheap Trains Act, and they recommended the Council forthwith to petition Parliament for an inquiry into the whole subject of extension of the cheap train system for the working classes. The condition of the London bakehouses was specially reported on by Mr. Shirley Murphy during the year. The Public Health Committee were satisfied on review of their medical officer's report that the law with reference to bakehouses requires amendment. They recommended that the central metropolitan authority rather than the vestries should have charge of the bakehouses of London and that the Council should be empowered by Parliament to make by-laws for the proper regulation of bakehouses. The food-supply of the metropolis appears to be satisfactorily kept under supervision by the vestries. Seizures were made during 1894 in a large number of districts of food consisting of meat, fish, vegetables, and fruit, and the persons selling such unsound commodities were in most cases fined. In the course of the year the medical officer of health of Islington investigated the question of the manufacture of ice-creams and of the conditions under which this article of food is prepared by the Italian vendors who habitually hawk it in the streets during hot weather. Specimens of ice-creams thus sold, and of the water used for washing the glasses in which the ice-cream is served, were found by Dr. Klein to contain, amongst other things, the "bacillus coli"—a normal inhabitant of the bowels of men and other animals! In December, 1894, Mr. Shirley Murphy presented a report to the Public Health Committee, showing the provision existing in the several metropolitan districts for the disinfection and destruction of infected articles and for the temporary shelter of persons during disinfection of their houses which had been contaminated by infection. The report gives account of twenty out of the thirty-four districts which had already made such provision, and also speaks of other districts which had taken the initiatory steps for providing such safeguards in the near future. As regards hospital accommodation for infectious diseases Mr. Shirley Murphy reports that nearly 18,000 persons suffering from fever, diphtheria, or small-pox were in the course of 1894 removed from their homes to the various hospitals of the Metropolitan Asylums Board, that 5000 convalescent patients were transferred to the Northern and Gore Farm Hospitals, and that about an equal number of patients were returned to London from those hospitals. The accommodation for scarlet fever was found sufficient, but that for diphtheria was insufficient during this year, and consequently much delay occurred in the removal of

[1] Nos. I. and II. appeared in THE LANCET of May 2nd and 9th.

sufferers from enteric fever and diphtheria, if, indeed, many of them were not unavoidably left to be treated in their own homes.

Arrangements are now in progress for the erection of fever and diphtheria hospitals at Shooter's-hill, Hither-green, and Lower Tooting, containing about 500 beds apiece. When the additional hospital buildings now in progress have been completed it is contemplated that the Metropolitan Asylums Board will possess accommodation for 6000 fever and diphtheria patients, exclusively of that provided for small-pox. Additional land at Long Reach has also been acquired near the hospital ship as a site for a small-pox isolation hospital. In connexion with the spread of small-pox by vagrants, which subject has been under the consideration by the committee since the beginning of 1893, a conference was held at the County Hall in July, 1894, and was attended by delegates from thirty-three London vestries and thirty-two extra metropolitan sanitary authorities. After discussion a series of recommendations were adopted with a view of limiting the spread of infectious disease by means of tramps and of providing for the more satisfactory regulation of the persons inhabiting common lodging-houses. In regard to the question of metropolitan water-supply Mr. Shirley Murphy has important observations for the consideration of the Council not less than of the consumers of water themselves. He states the opinion that examination of water delivered by any filter at intervals not shorter than a month affords but an inadequate test of the continued efficiency of filtration throughout the year. So long as London is so largely dependent on river supply for its drinking water it is obvious that examinations are requisite at much shorter intervals than a month, and it would appear to be the duty of the London County Council as the chief guardian of the health of the metropolis to arrange for a much more frequent examination of its water-supply.

During the year 1894 the London Building Law was consolidated and amended. The Act requires that for the future there shall be provided for the due ventilation and lighting of basements in rear of every building an open space of not less than 100 square feet, free from any erection above the level of the pavement. The elevation of every domestic building is, moreover, to be limited by the extent of the open space at the rear, so that its height shall not exceed twice the distance from the rear of the building to the boundary of the open space. Domestic buildings may be erected under special provisions on the site of similar buildings existing before 1894, which had less than the rear space prescribed by this Act, provided that no more ground is occupied by the new buildings than that which had been covered by the buildings previously existing.

In bringing to a close our notice of Mr. Shirley Murphy's excellent report we regret that we have no space for remarks upon any of the eleven appendices which form part of the document before us. We can only hope that these appendices, each of which is a complete report in itself, will receive adequate circulation, for they possess in almost every instance, far more than merely local interest.

THE PRIVY COUNCIL AND THE APOTHECARIES' HALL OF IRELAND.

IN THE PRIVY COUNCIL.

In the Matter of the Medical Acts 1858 to 1886 and in the Matter of an Application by the Apothecaries' Hall of Ireland for the Appointment of Examiners to Assist at the Qualifying Examinations which are held by the said Hall.

THIS case was heard on Monday, May 11th, at eleven o'clock in the Privy Council Chamber, Downing-street. The Members of the Privy Council were the President of the Council (the Duke of Devonshire), Lord Macnaghten, Lord James of Hereford, and Lord Rathmore. The Apothecaries' Hall was represented by Mr. R. B. Haldane, Q.C., M.P., and Mr. B. S. Foster; the General Medical Council by Sir Robert Reid, Q.C., M.P., and Mr. Muir Mackenzie. Several members of the General Medical Council were present, including the President (Sir Richard Quain), Dr. Thorne Thorne, and Dr. Glover. The proceedings were not prolonged. Mr. Haldane spoke for two hours on the history of the case as detailed in the minutes of the General Medical Council, a pretty full *précis* being in the hands of the court. His contention was that the Apothecaries' Hall had done its best under difficult circumstances; that on the admission of the Inspector and Visitor of the Council the examinations were improving, and that the Visitor was in error in saying that a certain candidate had passed who had not passed. He did not attach much importance to the allegations of malice in the pleadings of the Hall against the Royal College of Physicians of Ireland but to the great claims of the Hall examination as meeting the case of those who were intended for general practice in Ireland, and he maintained that if the Council would appoint examiners as desired the prosperity of the Hall would revive, and that it was for the interest of Ireland that it should do so. He showed that the action of the General Medical Council at the last meeting would destroy the power of the Hall to place its Licentiates on the Register—a statement which seemed to surprise Lord James of Hereford and Lord Macnaghten, who questioned Mr. Haldane on the subject. They were soon convinced by his reference to the Acts that it was so.

On the conclusion of Mr. Haldane's speech Lord Macnaghten asked him if the best course would not be for the Hall to make a further application to the General Medical Council for examiners, not confining the Council merely to surgical examiners. Mr. Haldane said he must consult his clients. Lord Macnaghten made a similar appeal to Sir Robert Reid, who begged in a few sentences to indicate the object and views of the General Medical Council, the drift of which was that the Council's prime object was to uphold the standard of medical education. Mr. Haldane then announced the willingness of the authorities of the Apothecaries' Hall to make a renewed application in the form suggested by their Lordships. Sir Robert Reid and Mr. Muir Mackenzie conferred. Though they could not pledge the General Medical Council they agreed to represent to it the views of the Court. Lord Macnaghten expressed the hope that such a course would succeed with the General Medical Council. "We all know," he said, "its familiarity with these questions and the great respect in which it is held by the public. There has evidently been a slight misunderstanding as to the facts which have now been placed in a clearer light. It is admitted that the examinations are improving, and the Council will have a freer hand over them if it pleases to require the nomination of other than surgical examiners. If it can settle this question it will relieve us from a delicate and difficult situation. At the same time the question will stand over for our further consideration should it not be arranged by the Council at its approaching meeting."

THE ANNUAL REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1894.

[SECOND NOTICE.][1]

WHILE the chief causes of admission among the European troops in India were venereal diseases and ague, causing 34 and 27 per cent. respectively of the total sickness, the chief causes of mortality were enteric fever, cholera, hepatic abscess, and injuries. Enteric fever gave rise to 36 per cent. of the total deaths and cholera to 13 per cent. We have already described and commented upon the facts connected with the lamentable prevalence of venereal diseases. The Sanitary Commissioner's report contains a good deal of valuable information on the subjects of enteric fever, cholera, malarial fever, dysentery, and hepatic abscess, and we now propose to deal with some of the more salient points of the report in respect of these diseases.

In all three Presidencies enteric fever heads the list of causes of death among British troops, and in Bengal and Bombay the ratio was higher in 1894 than the average of the decennium. Let us see whether any light can be thrown on the subject of enteric fever from general conditions or

[1] The First Notice was published in THE LANCET of May 9th, 1896.

etiological considerations before speaking of any assigned specific cause. Among the large stations with a strength of over 1000 we find that enteric fever caused a mortality of 15·23 at Mhow, 14·20 at Meerut, 11·96 at Peshawar, and 3·01 at Lucknow per 1000 respectively, with smaller rates at other stations. The disease is very widely distributed in India. The following table shows that the ratios for European troops are very unlike those for native troops and prisoners.

	1882-91.		1894.	
	Admissions.	Deaths.	Admissions.	Deaths.
European troops ...	14·7	4·13	20·9	5·75
Native troops	0·3	0·09	0·3	0·05
Gaol population ...	0·2	0·10	0·4	0·13

These ratios are obtained from large numbers, they are consistent with one another, and the facts they set forth have been repeated from year to year over such a period of time as to leave no doubt of their substantial correctness. In the case of native soldiers necropsies are rarely obtainable, but among prisoners the cause of death is verified in this way in nearly every fatal case. Moreover, the total mortality from fever in the European army is not that, but considerably less than that, of the native army, and the difference cannot, therefore, be accounted for by a mere matter of diagnosis. The question of the immunity, or apparent immunity, of natives of India has been long recognised and differently accounted for. This immunity, it may be added, was maintained by the native contingent during our campaigns in Egypt. It is but part of a bigger question, for the Arabs of Algeria and the natives of other countries enjoy a similar immunity. Mr. Hankin states, as the result of his observations, that the natives of India appear to be naturally insusceptible to enteric fever. The three principal views that have been put forward, according to the Sanitary Commissioner's report, are: (1) inherent racial immunity; (2) acquired toleration by exposure to, and a continuous but gradual imbibition of, the poison; or (3) the protective influence of the disease acquired in early life, but of the possible truth of this assumption there is really no reliable evidence. The results of the experimental researches of Sanarelli are quoted to show that it is possible that the natives of India may not be really immune; but that, by the constant imbibition of bacterial toxic fluids, they may have attained intestinal tolerance, and that, therefore, fatal fevers among them may often be in reality cases of enteric fever without intestinal lesions; but in that case we do not see how the nature of the fever can be really determined; it must remain a reasonable conjecture insusceptible of actual proof.

As regards the general contributory causes and conditions to this disease what has been pretty well established amounts to this: that enteric fever is very prevalent among Europeans in tropical and sub-tropical climates; that it has seasonal periods of manifestation, its maxima of prevalence coinciding with the maxima of temperature, the disease, for example, occurring earlier in the plains of India than in the hills; and that as regards the age of its subjects youth and immaturity and recent arrival in those climates are powerful predisposing causes to attack. But when we have said all this there still remains an essential factor to be added without which the disease does not appear, and this is now practically assumed by all bacteriologists to be the Eberth-Gaffky bacillus. The question narrows itself down, then, into the inquiry as to the life-history of this parasite and how it gains an entrance into the human system. Mr. Hankin has by his researches thrown considerable light on the origin of some mysterious cases and outbreaks in India. Some bacteriologists hold that the bacillus is constantly present in the stools of enteric fever patients after the second week of the disease, and that it maintains its identity and can also be recognised outside the body—in water, for example, contaminated by animal dejecta. In a very careful review of the recent literature on this subject the Sanitary Commissioner shows, however, that considerable difference of opinion still exists among bacteriological authorities and that there are many points which yet require to be cleared up before we can be said to have exhausted our knowledge of the subject and of the causation of typhoid fever. Professor Wright of Netley and Surgeon-Major Semple, for example, have pointed out in the pages of THE LANCET[2] that the typhoid fever bacillus was detected in the urine of enteric fever patients in six out of seven cases examined, and they accept the conclusions of Sanarelli and Wathelet that enteric fever is a blood infection and that the bacillus of Eberth is rare in the stools. Of course, if these observations be subsequently confirmed this source of infection will have to be recognised and guarded against. The water theory of enteric fever, as of cholera, has the largest amount of evidence in its favour; but in the meantime the Sanitary Commissioner contends that it may not be the whole truth and that the lesson to be learned is that we cannot be too careful of attention to cleanliness in all things and of guarding every avenue of approach, not only from enteric fever but from any filth disease. The hygienic condition of our cantonments may be excellent, but that of the native bazaars and villages and of every place, indeed, accessible to the soldier outside cantonment limits may be, and really is, quite the reverse. The difficulty that has to be accounted for, however, is the relatively small amount of enteric fever among the children and women, who consume both water and milk, and the large amount of it among officers, who do not usually consume these or the beverages and products of the native bazaars of which they are not usually frequenters as are the men. With the number of skilled inquirers available in India, supplemented by the researches of bacteriologists, we may fairly anticipate some fresh additions to our knowledge of the nature and causes of this fever which annually gives rise to such a great drain on the young manhood of the European force in that country.

With regard to cholera we may say that in Section 6 of the Report there is a very full and excellent analysis of the views regarding causation of cholera current at the time of Professor Koch's memorable visit to India and subsequently to that date. We may commend this to the perusal of those of our readers who are interested in the study and desirous of obtaining a good summary of the recent advances which have been made in the etiology of cholera.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the Committee of the Association of Fellows of the Royal College of Surgeons of England was held on May 6th, at 25, Grosvenor-street. Mr. Timothy Holmes, Vice-President, occupied the chair in the unavoidable absence of Mr. George Pollock, President.

The minutes of the last meeting were read and confirmed. Mr. H. Percy Dunn, honorary secretary, reported that, in answer to the resolution forwarded to the President of the College in reference to the admission of reporters to the meetings of the Fellows he had received a reply to the effect that the Council had already decided to admit reporters to these meetings.

The subject of the direct representation of Members of the College on the Council then came up for consideration in connexion with the adverse resolution adopted at the March meeting of the Council. It was ultimately agreed that the following resolution should be forwarded to the President of the College:—

"The Committee of the Association of Fellows of the Royal College of Surgeons of England regrets that the Council of the College should not have seen its way to adopt the resolution passed by a large majority at the meeting of the Fellows on Jan. 2nd, and trusts that the opinion of the Fellows generally on this important subject may be ascertained as agreed upon at the meeting of the Council of the College held on Feb. 11th."

The Honorary Secretary reported that he had received a communication on the foregoing subject from Mr. Dickinson, honorary secretary of the Society of Members, and it was agreed to acknowledge the letter and to state that the Committee did not see its way at the present moment to suggest any course of action.

The vacancies likely to arise upon the Council in July next were then considered. Mr. Norton stated that he did not intend to come forward as a candidate this year. Several

[2] THE LANCET, July 27th, 1895.

other Fellows were mentioned as probable candidates, but it was agreed that the further consideration of the subject should be deferred till the next meeting of the Committee on May 18th.

This concluded the business of the meeting and the Committee adjourned.

THE HISTORY, METHODS, HINDRANCES, EXPENDITURE, AND POLICY OF THE CIVIL RIGHTS DEFENCE COMMITTEE.

(Concluded from p. 1306.)

EXPENDITURE.

THE Civil Rights Defence Committee, although warmly supported in many quarters by the medical profession, has never at any time been in receipt of funds that would enable the committee to take the first step of application for special leave to appeal to the Judicial Committee of the Privy Council and has been compelled either to remain inactive or to expend the funds already received in renewed appeals, each of which has produced an insufficient return. Of the amounts received £84 were paid in preliminary legal expenses incurred in Trinidad and in this country and in the expenses of preparing the petitions for special leave to appeal, which are ready to be lodged. The expenses of the office, clerical assistance, postage, canvassing for signatures to memorials, printing, and other essential matters extending over a period of two years have been considerable and have made large inroads into the funds subscribed. There is an account still due to the printers, and the operations of the committee are hampered by the want of adequate funds. Great economy has been practised in all the expenditure incurred by the committee, letters and circulars wherever possible being delivered by hand and as strict a supervision as possible being exercised over printing and clerical expenses. Mr. Anderson's work for the committee has been entirely gratuitous, and advantageous arrangements were made with Mr. H. Anderson, solicitor of the committee, for office accommodation and clerical aid in his office at 5, Mitre-court, Temple, where the committee sits *de die in diem*, and from which all communications and reports are dated and issued. An Ellam's duplicator was purchased for three guineas enabling the committee to produce many circulars very cheaply. Still, it has been impossible without arresting the progress of the movement to stint the supply of reports, memorials, and other publications, which are essential for the creation of a public opinion favourable to the views of the committee. It is only now that the past outlay in printing is beginning to bear fruit in publicity, it is only by such publicity as that which is now being striven for and obtained that interest can be aroused, and it is only when interest is fully aroused that the general and large subscriptions necessary for the successful prosecution of the various appeals promoted by the committee can be received.

POLICY.

It was explained in the article which appeared in THE LANCET on Feb. 29th on the "Objects and Aims of the Civil Rights Defence Committee" that—

1. The primary purpose for which the Civil Rights Defence Committee was formed was to assist Mr. R. B. Anderson to appeal to the Privy Council for the reversal of the illegal judgments and orders of Colonial judges which remain in force and control his personal liberty, preventing him from returning to Tobago to carry on his practice, collect his debts, dispose of his property, or in any way satisfactorily to settle his affairs—judgments and orders which have been emphatically condemned by Royal Commissioners as "judicial persecution" and "a public danger."

2. The affirmation by the Court of Appeal of Lord Coleridge's decision against Mr. Anderson when a Middlesex special jury had found a verdict in his favour for £500 damages in the action "Anderson *v.* Gorrie and others" has rendered it necessary for the Civil Rights Defence Committee to appeal to the House of Lords to set aside this judgment. The decision renders nugatory not only the stipulations in Magna Charta and the Bill of Rights for the personal liberty of the subject, but the professional rights of medical men conferred by their diplomas whereby they have hitherto been able to pursue their calling in peace, to enjoy the right of recovering their fees for medical attendance in courts of law and to determine for themselves whether they shall attend or not attend, continue or discontinue, attendance in any particular case. The enjoyment of these rights is now made subject to the will and pleasure of Her Majesty's judges, and for any violation of them, however wilful and malicious, committed by a judge no remedy at law will exist.

3. In the event of the decision of the House of Lords upholding the decision of the Court of Appeal the Civil Rights Defence Committee must resort to Parliament for the amendment of the law and for compensation to Mr. Anderson for the unprecedented wrongs he has suffered. A petition to Parliament has been prepared and, if necessary, will be presented in due course by Lord Stamford at the bar of the House.

4. With the view of laying the foundation of a favourable opinion in Parliament and to enlist the sympathies and aid of individual members the Civil Rights Defence Committee arranged for a conference, which was held in the House of Commons on Aug. 29th, 1895. The result was so encouraging that memorials to Members of Parliament have been drawn up for signature by constituents, and are being widely circulated through the agency of friends and with the coöperation of the British Medical Association and its branches.

5. In order to leave no avenue of justice unexplored Mr. R. B. Anderson submitted to the committee a petition to the Queen which he had drawn up, and after very full discussion the committee decided not to fetter his discretion in the matter. Accordingly the petition was sent in and an answer has been received which evades the question really at issue, and which will necessitate further steps.

6. Various public bodies have been approached for the purpose of securing their coöperation and representation on the committee. The bodies at present represented are the British and West Indian Alliance, the West Indian Union, the Royal College of Surgeons of England, the British Medical Association, the Association of Fellows of the Royal College of Surgeons of England, the West London Divisions of the London and Counties Medical Protection Society, and quite recently the Medical Defence Union. The Royal College of Physicians of London, the Apothecaries' Society, the University of London, and the General Medical Council were applied to, but have not responded to the appeal. The Civil Rights Defence Committee still entertains a hope that when these bodies come to understand how the decision of the Court of Appeal affects the professional rights which they guarantee every day, a different result will be obtained.

7. Efforts have been made and will continue to be made to enlist the more active support of the public press. To the medical journals and to some of the weekly and daily papers, to provincial and colonial organs of opinion, and to some of the reviews the committee has been greatly indebted for the insertion of articles and appeals. Quite recently the *Echo* has inserted articles and opened its columns to a correspondence upon Mr. Anderson's case. The *Westminster Review* has dealt with the doctrine of judicial immunity in an exhaustive manner, and in addition to previous articles we have published in the columns of THE LANCET the present series of articles which have, we trust, fully elucidated the whole scope and plan of operations of the Civil Rights Defence Committee. The circle of interest is undoubtedly widening and a full awakening of the public conscience is anticipated at no very distant date. In evidence of this it may be mentioned that only on Friday, May 8th, the Hardwicke Debating Society, which is the chief barristers' debating society and represents the four Inns of Court, engaged in a formal debate on the following resolution, moved by Mr. Copeland and seconded by Mr. Candy, Q.C.

"That the modern interpretation of the law of judicial immunity is mischievous and dangerous, is an encroachment on the liberty of the subject, and ought to be revised." In the course of his speech Mr. Candy said that no more suitable case than that of Anderson *v.* Gorrie could be found for appeal to the House of Lords, and that it is one which justified an appeal to the public for funds. The whole debate turned on Mr. Anderson's case, and the resolution was carried with only two dissentients.

8. Other measures to arouse public sympathy and interest have been undertaken both by Mr. Anderson and the Civil

Rights Defence Committee. Operatives in the printing trade and other businesses and political clubs have been addressed, and through their aid the publications of the committee are being widely circulated. Other steps are proposed The organisation of public meetings fully reported in the press ought to bring the work of the committee to a successful issue, since there is but one side to the case, the other being compounded of *vis inertiæ*, *non possumus*, and dogged resistance to the claims of justice. It is in view that public meetings shall be held first in East Islington and Wandsworth, and afterwards at the Mansion House with the coöperation of City guilds, and then throughout the country.

THE SOUDAN CAMPAIGN.

BEYOND the fact of the intended despatch of Indian troops to garrison Suakin and Tokar and the active progress of the preparations on the Nile stations for the anticipated advance on Dongola there is but little to chronicle. We have pointed out the suitability in all respects of our Indian Army for service in Egypt. The native troops are admirably fitted for the climate to begin with, and both in their own country and on previous occasions in Egypt have maintained a high standard of health and efficiency during campaigns in the hot weather, besides being in point of training, gallantry, and discipline excellent soldiers. It is intended that the garrisons of Suakin and Tokar shall consist of these Indian troops and one Egyptian battalion, the remainder of the Egyptian force at those places proceeding to Wady Halfa to form hereafter part of the Dongola expeditionary force. The Indian contingent is a mixed force, consisting of a regiment of Bengal infantry, with a Sikh regiment, the 1st Bombay Lancers, a native mountain battery, and a section of Madras Sappers and Miners. This force will be accompanied by the 31st and 32nd Bombay Native Field Hospitals and the principal medical officer will be Surgeon-Colonel Calthrop, an officer of experience in the field. It is stated that the Indian contingent is for purely defensive purposes and will simply hold the stations whither they are proceeding; but if their services should be subsequently required for field purposes elsewhere they are sure to prove efficient and may be expected to give a good account of themselves.

As far as the Dervishes are concerned the Anglo-Egyptian force on the Nile is allowed to remain quiet and unmolested in making and perfecting their arrangements for the subsequent advance. The different stations are well provided with hospital accommodation, the railway is progressing, and arrangements are being made for the transport of the sick and wounded. The inaction of the Dervishes is attributed to different reasons, but nothing reliable is known about their intended operations; it is all conjecture. Meanwhile the heat is intense and very trying—114° F. in the shade and 128° in tents—but the health of the force continues to be quite as satisfactory as could be expected.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6726 births and 3858 deaths were registered during the week ending May 9th. The annual rate of mortality in these towns, which had been 19·5 and 18·4 per 1000 in the two preceding weeks, rose again to 18·5 last week. In London the rate was 17·9 per 1000, while it averaged 19·0 in the thirty-two provincial towns. The lowest rates in these towns were 12·3 in Portsmouth, 12·7 in Gateshead and in Swansea, 13·3 in Croydon, and 13·8 in Nottingham; the highest rates were 22·0 in Preston, 22·8 in Birmingham, 23·1 in Manchester and in Plymouth, 25·9 in Burnley, and 31·4 in Salford. The 3858 deaths included 622 which were referred to the principal zymotic diseases, against 701 and 641 in the two preceding weeks; of these, 225 resulted from measles, 205 from whooping-cough, 74 from diphtheria, 53 from diarrhœa, 40 from scarlet fever, 25 from "fever" (principally enteric), and not one from small-pox. The lowest death-rates from these diseases were recorded in Brighton, Portsmouth, Nottingham, and Swansea; and the highest rates in West Ham, Birkenhead, Manchester, Salford, and Burnley. The greatest mortality from measles occurred in London, Bristol, Manchester, Burnley, Sunderland, and Birkenhead; from scarlet fever in Huddersfield; from whooping-cough in Halifax, West Ham, Croydon, Manchester, and Salford; and from "fever" in Halifax. The 74 deaths from diphtheria included 41 in London, 6 in West Ham, 6 in Birmingham, 5 in Manchester, and 3 in Burnley. No fatal case of small-pox was registered either in London or in any of the provincial towns. There were 15 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 9th inst., against 16 and 13 at the end of the two preceding weeks; 5 new cases were admitted during the week, against 4, 8, and 3 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2527, against 2527, 2534, and 2523 on the three preceding Saturdays; 238 new cases were admitted during the week, against 236 in each of the two preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 287 and 292 in the two preceding weeks, declined again to 260 last week, and were 68 below the corrected average. The causes of 63, or 1·6 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Oldham, Bradford, Leeds, Newcastle-upon-Tyne, and in eleven other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Liverpool, and Blackburn.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·9 and 19·0 per 1000 in the two preceding weeks, further declined to 18·9 during the week ending May 9th, but was 0·4 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 16·8 in Greenock and 17·1 in Edinburgh and in Perth, to 20·6 in Dundee and 22·1 in Paisley. The 552 deaths in these towns included 25 which were referred to whooping-cough, 14 to "fever," 13 to diarrhœa, 11 to measles, 3 to diphtheria, 3 to scarlet fever, and not one to small-pox. In all, 69 deaths resulted from these principal zymotic diseases, against 67 and 76 in the two preceding weeks. These 69 deaths were equal to an annual rate of 2·4 per 1000, which was 0·6 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 30 in each of the two preceding weeks, declined to 25 last week, of which 17 occurred in Glasgow, and 7 in Aberdeen. The deaths referred to different forms of "fever," which had been 4, and 9 in the three preceding weeks, further rose to 14 last week, and included 6 in Glasgow, 4 in Edinburgh, and 2 in Dundee. The 11 fatal cases of measles corresponded with the number in the preceding week, and included 7 in Glasgow and 3 in Dundee. The deaths referred to scarlet fever, which had been 10 and 6 in the two preceding weeks, further declined to 3 last week, of which 2 occurred in Aberdeen. The 3 fatal cases of diphtheria slightly exceeded the numbers recorded in recent weeks. The deaths referred to diseases of the respiratory organs in these towns, which had been 120 and 88 in the two preceding weeks, rose again to 110 last week, and were 12 above the number in the corresponding week of last year. The causes of 26, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased in the three preceding weeks from 20·6 to 23·7 per 1000, declined again to 21·9 during the week ending May 9th. During the past six weeks of the current quarter the death-rate in the city has averaged 23·4 per 1000, the rate during the same period being 18·9 in London and 17·6 in Edinburgh. The 147 deaths registered in Dublin during the week under notice showed a decline of 12 from the number in the preceding week, and included 13 which were referred to the principal zymotic diseases, against 4 and 10 in the two

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON—APRIL, 1896.

(Specially compiled for THE LANCET.)

Sanitary Areas.	Estimated population in the middle of 1896.	Notified Cases of Infectious Disease.											Deaths from Principal Infectious Diseases.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,435,955**	**22**	**1496**	**986**	—	**202**	**6**	**19**	**457**	—	**3188**	**7·5**	**2**	**750**	**71**	**206**	**580**	—	**31**	**1**	**49**	**1690**	**4·0**	**7951**	**18·7**	**136**
West Districts.																										
Paddington	123,942	—	44	17	—	8	—	2	16	—	87	7·3	—	27	1	4	11	—	2	—	2	47	4·0	198	16·7	132
Kensington	167,993	4	52	29	—	4	—	2	26	—	117	7·3	—	48	2	5	24	—	—	—	—	79	4·9	307	19·1	156
Hammersmith	111,246	1	30	16	—	4	—	1	8	—	60	5·6	—	10	—	8	10	—	1	—	1	30	2·8	178	16·7	144
Fulham	124,029	—	32	24	—	2	—	—	6	—	64	5·4	—	22	2	4	10	—	3	—	1	42	3·8	180	15·1	115
Chelsea	100,815	—	38	18	—	3	—	—	9	—	68	7·0	—	49	3	6	10	—	—	—	1	69	7·1	213	22·0	190
St. George Hanover-square	73,054	—	25	11	—	3	—	—	6	—	45	6·4	—	5	1	4	4	—	1	—	—	15	2·1	104	14·8	109
Westminster	53,595	—	15	11	—	2	—	—	7	—	35	6·8	—	1	3	2	4	—	—	—	1	11	2·1	87	16·9	85
St. James Westminster	22,735	—	6	6	—	—	—	1	2	—	15	6·9	—	6	—	—	1	—	—	—	1	8	3·7	44	20·2	150
North Districts.																										
Marylebone	136,239	1	44	19	—	6	—	—	14	—	84	6·4	—	37	4	5	9	—	1	—	—	56	4·3	261	20·0	116
Hampstead	79,831	—	27	10	—	5	—	1	4	—	47	6·1	—	7	1	2	4	—	1	—	—	15	2·0	84	11·0	92
St. Pancras	233,247	2	69	34	—	8	—	—	24	—	137	6·1	—	24	2	11	16	—	3	—	1	57	2·5	414	18·5	115
Islington	340,007	—	93	80	—	10	1	2	30	—	216	6·6	—	41	2	21	53	—	2	—	2	121	3·7	580	17·8	140
Stoke Newington	36,329	—	8	5	—	—	—	1	1	—	15	4·3	—	—	2	1	6	—	—	—	2	11	3·2	35	10·0	109
Hackney	219,834	2	108	42	—	10	1	—	17	—	180	8·5	—	24	5	8	33	—	2	—	2	74	3·5	326	15·5	127
Central Districts.																										
St. Giles	37,170	—	4	8	—	1	—	—	7	—	20	5·6	—	6	—	2	3	—	—	—	—	11	3·1	75	21·0	160
St. Martin-in-the-Fields	13,294	1	3	1	—	—	—	—	1	—	6	4·7	—	2	—	—	1	—	—	—	—	3	2·4	25	19·6	95
Strand	22,008	—	4	4	—	—	—	—	1	—	9	4·3	—	3	—	—	1	—	—	—	—	4	1·9	56	26·5	188
Holborn	31,940	1	7	12	—	3	—	—	2	—	25	8·2	1	4	—	2	3	—	1	—	—	11	3·6	63	20·6	153
Clerkenwell	64,762	—	26	17	—	2	—	—	7	—	52	8·4	—	7	2	4	8	—	—	—	1	22	3·5	127	20·5	154
St. Luke	40,362	—	7	10	—	—	—	—	13	—	30	7·8	—	13	1	4	3	—	—	—	—	21	5·4	113	29·2	124
City of London	32,845	—	11	5	—	1	—	—	—	—	17	5·4	—	—	—	1	3	—	1	—	—	5	1·6	63	20·0	167
East Districts.																										
Shoreditch	122 678	—	28	21	—	13	1	—	21	—	84	7·1	—	18	2	2	24	—	2	—	1	49	4·2	247	21 0	142
Bethnal Green	130,282	—	65	39	—	8	—	—	24	—	136	10·9	—	30	2	5	45	—	—	—	3	85	6·8	301	24·1	164
Whitechapel	76,143	1	35	25	—	6	—	—	10	—	77	10·5	—	4	1	2	5	—	—	—	3	15	2·1	166	22·7	126
St. George-in-the-East	45,036	—	29	24	—	2	—	1	7	—	63	14·6	—	3	—	4	1	—	—	—	2	10	2·3	89	20·6	122
Limehouse	56,770	—	19	27	—	2	—	—	8	—	56	10·3	—	5	1	7	12	—	—	—	—	25	4·6	125	23·0	144
Mile End Old Town	108,645	—	36	50	—	12	—	1	12	—	111	10·7	—	12	2	13	18	—	—	—	1	46	4·4	198	19·0	125
Poplar	172,319	—	48	53	—	8	1	—	26	—	136	8·2	—	37	3	7	36	—	—	—	1	84	5·1	356	21·5	167
South Districts.																										
St. Saviour Southwark	26,429	—	12	6	—	—	—	—	1	—	19	7·5	—	2	1	—	3	—	—	—	—	6	2·4	68	26·8	219
St. George Southwark	60,276	—	19	13	—	2	—	—	5	—	39	6·7	—	16	—	3	5	—	—	—	1	25	4·3	130	22·5	135
Newington	120,211	1	55	18	—	6	—	—	17	—	97	8·4	1	8	3	4	8	—	1	—	3	28	2·4	215	18·7	123
St. Olave Southwark	13,147	—	3	3	—	—	—	—	1	—	7	5·6	—	2	—	1	3	—	—	—	1	7	5·6	28	22·2	135
Bermondsey	83,669	—	21	12	—	10	—	—	5	—	48	6·0	—	15	1	6	33	—	—	—	2	57	7·1	195	24·3	140
Rotherhithe	41,064	—	22	1	—	2	—	—	10	—	35	8·9	—	3	2	—	5	—	—	—	—	12	3·0	66	16·8	106
Lambeth	287,211	—	80	42	—	12	—	4	36	—	174	6·3	—	32	4	11	33	—	—	—	4	84	3·1	470	17·1	106
Battersea	168,825	—	58	21	—	8	—	—	18	—	105	6·5	—	41	3	4	25	—	1	—	2	76	4·7	316	19·5	156
Wandsworth	191,922	1	83	13	—	6	—	1	9	—	113	6·1	—	47	1	1	41	—	—	—	5	95	5·2	298	16·2	178
Camberwell	256,672	—	85	96	—	16	—	1	24	—	222	9·0	—	14	4	13	41	—	3	—	1	76	3·1	444	18·0	128
Greenwich	177,286	1	58	80	—	5	1	1	14	—	160	9·4	—	66	5	14	19	—	2	—	—	106	6·2	356	20·9	134
Lewisham (excluding Penge)	84,995	—	18	22	—	5	—	—	4	—	49	6·0	—	14	—	4	4	—	1	—	2	25	3·1	109	13·4	140
Woolwich	43,212	—	7	6	—	1	1	—	2	—	17	4·1	—	33	1	4	—	—	—	1	—	39	9·4	104	25·1	156
Lee	39,564	1	29	11	—	3	—	—	2	—	46	12·1	—	1	2	1	1	—	—	—	1	6	1·6	55	14·5	108
Plumstead	64,203	3	32	24	—	2	—	—	—	—	61	9·9	—	11	2	6	1	—	1	—	1	22	3·6	82	13·3	85
Port of London	—	2	1	—	—	1	—	—	—	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 44 cases of membranous croup.

† Including deaths from membranous croup.

preceding weeks; of these, 7 resulted from "fever" (principally enteric), 3 from scarlet fever, 2 from diarrhœa, 1 from diphtheria, and not one either from small-pox, measles, or whooping-cough. These 13 deaths were equal to an annual rate of 1·9 per 1000, the zymotic death-rate during the same period being 3·5 in London and 1·5 in Edinburgh. The 7 deaths referred to different forms of fever exceeded the number recorded in any week since the end of 1894. The fatal cases of scarlet fever, which had been 1 and 6 in the two preceding weeks, declined to 3 last week. The 147 deaths in Dublin last week included 21 of infants under one year of age, and 29 of persons aged upwards of sixty years; the deaths of infants showed a further decline from recent weekly numbers, while those of elderly persons corresponded with the number recorded in the preceding week. No inquest cases, and only 1 death from violence, were registered; and 47, or nearly a third, of the deaths occurred in public institutions. The causes of 12, or more than 8 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING APRIL, 1896.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during April in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious disease in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 7·5 per 1000 of the population, estimated at 4,435,955 persons in the middle of this year. In the three preceding months the rates had been 10·3, 8·8, and 8·4 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in Fulham, Stoke Newington, St. Martin-in-the-Fields, Strand, and Woolwich; while they showed the largest excess in Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, Mile End Old Town, Camberwell, Greenwich, Lee, and Plumstead. The prevalence of small-pox in London showed a slight decline from that in the preceding month, the 22 cases notified including 4 in Kensington, 3 in Plumstead, 2 in St. Pancras, 2 in Hackney, and 2 in the Port of London sanitary areas. The Metropolitan Asylum Hospitals contained 10 small-pox patients at the end of April, against 68, 45, and 33 at the end of the three preceding months; the weekly admissions averaged 4, against 13, 6, and 7 in the three preceding months. The prevalence of scarlet fever in London showed a slight decline during April; this disease was proportionally most prevalent in Hackney, Bethnal Green, Whitechapel, St. George-in-the-East, Newington, Rotherhithe, Lee, and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 2464 scarlet fever patients at the end of April, against 2814, 2867, and 2688 at the end of the three preceding months; the weekly admissions averaged 208, against 282, 258, and 234 in the three preceding months. The prevalence of diphtheria in London during April showed a marked decline from that recorded in recent months; among the various sanitary areas this disease showed the highest proportional prevalence in Holborn, Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, Mile End Old Town, Camberwell, Greenwich, and Plumstead. There were 713 diphtheria patients under treatment in the Metropolitan Asylum Hospitals at the end of April, against 682, 715, and 704 at the end the three preceding months; the weekly admissions averaged 89, against 99 in each of the two preceding months. The prevalence of enteric fever in London showed a slight increase upon that recorded in the preceding month; this disease was proportionally most prevalent in Holborn, Shoreditch, Mile End Old Town, and Bermondsey sanitary areas. Erysipelas was proportionally most prevalent in St. Giles, St. Luke, Shoreditch, Bethnal Green, and Rotherhithe sanitary areas. The 19 cases of puerperal fever notified during April included 4 in Lambeth, 2 in Paddington, 2 in Kensington, and 2 in Islington sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas, the deaths occurring in the institutions of London having been distributed among the different sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, May 2nd, the deaths of 7951 persons belonging to London were registered, equal to an annual rate of 18·7 per 1000, against 18·4, 20·0, and 19·4 in the three preceding months. The lowest death-rates during April in the various sanitary areas were 10·0 in Stoke Newington, 11·0 in Hampstead, 13·3 in Plumstead, 13·4 in Lewisham (excluding Penge), 14·5 in Lee, and 14·8 in St. George Hanover-square; the highest rates were 23·0 in Limehouse, 24·1 in Bethnal Green, 24·3 in Bermondsey, 25·1 in Woolwich, 26·5 in Strand, 26·8 in St. Saviour Southwark, and 29·2 in St. Luke. During the five weeks of April 1690 deaths were referred to the principal zymotic diseases in London; of these, 750 resulted from measles, 580 from whooping-cough, 206 from diphtheria, 71 from scarlet fever, 49 from diarrhœa, 31 from enteric fever, 1 from an ill-defined form of continued fever, and 2 from small-pox. These 1690 deaths were equal to an annual rate of 4·0 per 1000; among the various sanitary areas the lowest death-rates from these diseases were recorded in St. George Hanover-square, Westminster, Hampstead, Strand, City of London, Whitechapel, and Lee, and the highest rates in Chelsea, St. Luke, Bethnal Green, St. Olave Southwark, Bermondsey, Greenwich, and Woolwich. The 2 fatal cases of small-pox were 3 below the corrected average number in the corresponding periods of the ten preceding years; 1 belonged to Holborn and 1 to Newington sanitary areas. The 750 deaths referred to measles were more than double the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Kensington, Chelsea, St. Luke, Bethnal Green, Poplar, St. George Southwark, Battersea, Wandsworth, Greenwich, and Woolwich. The 71 fatal cases of scarlet fever were within 10 of the corrected average number; the mortality from this disease showed no marked excess last month in any of the sanitary areas. The 206 deaths from diphtheria were 62 above the corrected average number; among the various sanitary areas this disease was proportionally most fatal in St. Luke, St. George-in-the-East, Mile End Old Town, Limehouse, Bermondsey, Woolwich, and Plumstead. The 580 fatal cases of whooping-cough were as many as 234 above the corrected average number; this disease showed the highest proportional fatality in Kensington, Shoreditch, Bethnal Green, Limehouse, Poplar, Bermondsey, and Wandsworth sanitary areas. The 31 deaths referred to enteric fever were 10 below the corrected average number; there was no marked excess of enteric fever mortality in any of the sanitary areas. The 49 fatal cases of diarrhœa were 23 below the corrected average number. In conclusion, it may be stated that the mortality in London during April from these principal zymotic diseases was more than 65 per cent. above the average.

Infant mortality in London during April, measured by the proportion of deaths under one year of age to births registered, was equal to 136 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in Westminster, Hampstead, St. Martin-in-the-Fields, Rotherhithe, Lambeth, and Plumstead; and the highest rates in Strand, City of London, Bethnal Green, Poplar, St. Saviour Southwark, and Wandsworth.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-MAJORS CHARLTON and Moffitt have arrived in England on completion of a tour of service in India. Surgeon-Major Swabey has been appointed to York, Surgeon-Major Hughes to Brighton, Surgeon-Major Archer to Chester, and Surgeon-Major Cowan to the Cork District. Surgeon-Major Simpson is under orders to proceed to South Africa and Brigade-Surgeon-Lieutenant-Colonel Leake to Bermuda.

INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Lieutenant C. R. Stevens are placed temporarily at the disposal of the Government of Bengal. The services of Surgeon-Captain J. R. Adie are placed temporarily at the disposal of the Government of the Punjab. The services of Surgeon-Lieutenant G. Y. C. Hunter are placed temporarily at the disposal of the Government of the Punjab. The services of Surgeon-Captain C. G. Robson-Scott are placed temporarily at the disposal of the Government of Bengal. The services of the

undermentioned officers are placed temporarily at the disposal of the Chief Commissioner of Burma:—Surgeon-Lieutenant C. C. S. Barry, and Surgeon-Lieutenant C. E. Williams. Surgeon-Major J. Anderson is appointed to be Joint Medical Officer of Simla. The services of Surgeon-Major J. A. Cunningham, Civil Surgeon of Simla, are replaced at the disposal of the Government of the Punjab. Surgeon-Captain E. C. Hare is appointed to officiate as Civil Surgeon of the North Lushai Hills, until further orders. Surgeon-Captain H. R. C. Barber, Civil Surgeon, is transferred from Jhelum to Murree. Brigade-Surgeon-Lieutenant-Colonel Francis Cobham Nicholson and Surgeon-Lieutenant-Colonel Benjamin Evers, Bengal Medical Establishment, Civil Surgeon, Central Provinces, retire from the service subject to Her Majesty's approval.

NAVAL MEDICAL SERVICE.

The following appointments are notified:—Surgeon A. M. Page to Royal Marine Depôt, Walmer. Surgeon and Agent: R. Lyddon at Deal.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Thomas W. Richardson resigns his commission, Surgeon-Captain Casper Robert Laurie, 1st Volunteer Battalion the Duke of Cornwall's Light Infantry, to be Surgeon-Captain.

VOLUNTEER CORPS.

Artillery: 1st Shropshire and Staffordshire: Surgeon-Lieutenant R. P. Mackenzie, M.B., to be Surgeon-Captain. *Engineer: Fortress and Railway Forces, Royal Engineers:* 2nd Gloucestershire (the Bristol): Surgeon-Lieutenant J. M. M. Thomas to be Surgeon-Captain. *Submarine Miners, Royal Engineers:* The Clyde Division: Surgeon-Lieutenant J. H. G. Whiteford, M.B., to be Surgeon-Captain. *Rifle:* 4th (Cambridge University) Volunteer Battalion the Suffolk Regiment: Surgeon-Lieutenant H. K. Anderson, M.B., resigns his commission. 1st Volunteer Battalion the East Lancashire Regiment: William Moir, M.B., to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Duke of Cornwall's Light Infantry: Brigade-Surgeon-Lieutenant-Colonel D. Thomson resigns his commission, also is permitted to retain his rank and to continue to wear the uniform of the Battalion on his retirement, vacating at the same time his appointment in the Plymouth Volunteer Infantry Brigade. 12th Middlesex (Civil Service): Surgeon-Lieutenant T. H. Dickson, M.B., to be Surgeon-Captain. 3rd (The Blythswood) Volunteer Battalion the Highland Light Infantry: James Allan Wilson, M.D., to be Surgeon-Lieutenant. 6th Volunteer Battalion the Royal Scots (Lothian Regiment): James Cameron, gent., to be Surgeon-Lieutenant. 4th Volunteer Battalion the Hampshire Regiment: Surgeon-Lieutenant G. R. R. Paine resigns his commission, 2nd (Angus) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Lieutenant-Colonel W. F. Murray, M.D., resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the Battalion on his retirement. 2nd Volunteer Battalion the Oxfordshire Light Infantry: Surgeon-Lieutenant C. D. Batt is appointed Second Lieutenant.

DEATHS IN THE SERVICES.

Deputy-Surgeon-General G. Scott Davie, M.D. Edin., Army Medical Staff, at Upper Norwood in his sixty-first year. The deceased officer had a record of long and varied field service. During the Crimean War he served with the Turkish contingent in Turkey and at Kertch. He became assistant-surgeon in the British Army in November, 1858, and surgeon-major in September, 1875. He served as senior medical officer in the operations in Perak, and with the Peshawar Valley Field Force in the Afghan War of 1878–9. In 1882 he served in the Egyptian War and was present at Tel-el-Kebir. In 1885 he was promoted to the rank of brigade-surgeon, and to that of deputy-surgeon-general in May, 1886, when he retired from the service. The late officer, besides receiving medals and clasps with decorations for the foregoing, was also mentioned in despatches for his services. He was a most reliable and valuable officer, of excellent professional attainments, and much respected by all. In addition to his other qualifications he had a good knowledge of the Turkish and Persian languages and had published translations of poetry from the latter.

Surgeon-Major Henry Ogilvy Stuart, on the 11th inst., aged thirty-nine. He was appointed to the Army Medical Staff in February, 1882, and was promoted to the rank of surgeon-major in February, 1884. He served in the Afghan War of 1880 (medal), and was engaged in the expedition to the Soudan in 1884 in command of detachments of the Army Hospital Corps, and was present at the battles of El Teb and Tamai (medal with clasp and the Khedive's star). He was present at the action of Kirbekan, Nile expedition 1884–85 (two clasps).

Surgeon-Lieutenant-Colonel Robert Smith, A.M.S., on the 6th inst. He was appointed a surgeon in September, 1874, and was promoted to be surgeon-major in 1886 and surgeon-lieutenant-colonel in September, 1890. He was engaged in the Boer War of 1881 and in the Soudan expedition of 1885 (medal with clasp and Khedive's star).

ROYAL MILITARY TOURNAMENT.

If the performance may be judged by the promise, the Royal Military Tournament, which will be held at the Agricultural Hall, Islington, from May 28th till June 11th next, should prove one of the best that has yet been organised. Carried out by what is practically a new staff, with Colonel Fox as Military Commandant, it will embrace the leading features of past years, but the committee have infused into the programme new ideas which should make the Tournament for 1896, from a spectacular point of view at any rate, exceedingly popular. In order to give the general public and the world at large some notion of the reserves at the command of the British Empire a grand pageant has been arranged under the title "Sons of the Empire," in which representatives of the home, Indian, and colonial armies will take part. The display of all arms will this year be set in a *mise-en-scène* representing the storming of an Afghan fort. The medical officers in charge of the troops will be Surgeon-Major Alexander of the Coldstream Guards and Surgeon-Lieutenant Kenneth Cameron, A.M.S. During the progress of the tournament a detachment of the Volunteer Medical Staff will appear in the arena, and the St. John Ambulance Brigade will furnish a detachment to attend on the general public in case of need.

THE VOLUNTEER OFFICERS' DECORATION.

The Queen has been graciously pleased to confer the Volunteer Officers' Decoration upon the undermentioned officers of the Volunteer Force:—*North-Eastern District: Rifle:* 1st Volunteer Battalion the Prince of Wales's Own (West Yorkshire Regiment), Surgeon-Major Charles Husband, retired. *North-Western District: Artillery:* 8th Lancashire Volunteer Artillery, Surgeon-Major Arthur Richard Hopper. *Rifle:* 4th Volunteer Battalion the Cheshire Regiment, Brigade-Surgeon-Lieutenant-Colonel William Edward Sevier Burnett; 5th Volunteer Battalion the Cheshire Regiment, Surgeon-Lieutenant-Colonel Patrick Moir Davidson. *Home District: Rifle:* 18th Middlesex Volunteer Corps, Brigade-Surgeon-Lieutenant-Colonel George Danford Phillips Thomas. *Scottish District: Rifle:* 6th Volunteer Battalion the Royal Scots (Lothian Regiment), Surgeon-Lieutenant-Colonel Charles James Allan; 9th Lanarkshire Volunteer Rifle Corps, Surgeon-Lieutenant Edward Henry Kelly.

THE QUEEN'S BIRTHDAY.

The Queen's birthday will be celebrated on Wednesday May 20th next, at all the naval and military stations as well as in London.

Surgeon-Major-General W. Taylor, M.D., was invited by the Queen to Windsor Castle on the 11th inst.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next general meeting of this society will be held at the rooms of the association, 11, Chandos-street, Cavendish-square, on Thursday, May 21st, 1896, under the presidency of Dr. Nicolson. There will be an adjourned discussion on Dr. Hyslop's paper on Pseudo-General Paralysis of the Insane; Dr. Robert Jones will read a short account of Claybury Asylum, the first new asylum of the London County Council; and Dr. Mercier will read a paper on Medical Reticence. The next examination for the Certificate and the Gaskell Prize will take place at Bethlem Hospital in July. Candidates for the Bronze Medal and Prize of Ten Guineas must send in their essays to the President before May 30th, 1896. Particulars of the examination for the Certificate and the Gaskell Prize can be obtained of the registrar, Dr. Spence, Burntwood Asylum, near Lichfield. The members will dine together after the meeting at the Café Royal, Regent-street, at 6.30 P.M.

Correspondence.

"Audi alteram partem."

THE CASE OF KINGSBURY v. HART.

To the Editors of THE LANCET.

SIRS,—In your recent issue, dated April 25th, I observe amongst other miscellaneous Manchester news that a society designated a "medical guild" passed in review the judgment on the recently heard case of Kingsbury *v.* Hart and placed on record a pronouncement of dissent from the views expressed by plaintiff's witnesses. As reasons for this dissent are withheld and may come up for review at a later date, perhaps you will allow me to supply mine, seeing that I was one of the witnesses alluded to by the "guild" as testifying on the plaintiff's behalf. 1. In a sense every medical practitioner advertises himself to the public once by fixing a brass plate on his door. 2. Manchester being devoted almost exclusively to business purposes, and dwelling houses being so few in the central parts of the city that they may almost be counted on five fingers, it follows that consulting physicians and surgeons are under a necessity of engaging rooms or offices for professional purposes in the daytime apart from their private residences which are located for the most part in suburban districts and on the gate-posts of which their names and designations are again repeated. We thus arrive at two separate forms of publicity or so-called advertisement, against which no exception is taken, adopted by gentlemen justly accounted honourable, and who act up to the best professional traditions. 3. Another practitioner, following an already existing and commonly adopted custom, has three door-plates at different parts of the town where he follows his calling—one on his dwelling-house and two on gate-posts of hydropathic institutions of which he is the accredited medical referee—stating the hours when he can be seen at each for purposes of consultation. For so doing his fair fame has been libelled and himself stigmatised as one who has grievously derogated from the best traditions of his profession. Failing to realise that this numerical appraisement of brass plates represented, *cæteris paribus*, all the nice gradations between honour and infamy I testified that, in my judgment, Dr. Kingsbury had not laid himself open to the grave imputations brought against him.

I am, Sirs, yours obediently,

Manchester, May 11th, 1896. F. RENAUD.

"THE HISTORY, METHODS, EXPENDITURE, AND POLICY OF THE CIVIL RIGHTS DEFENCE COMMITTEE."

To the Editors of THE LANCET.

SIRS,—Permit me to thank you very warmly for the powerful support you are giving the Civil Rights Defence Committee in the series of articles now appearing in your columns, and especially for that in the last issue—an article, if I may venture to characterise it, dealing with a great subject in a manner worthy of a great journal and placing the position very clearly and definitely before the profession. The work of the Civil Rights Defence Committee will eventually be fully appreciated, not alone by the profession, but by the nation. The cases of Surgeon-Captain Fowler and Mr. Lionel Smith prove how much an organised defence of our rights is needed. Both cases ought to be taken up, and carried to a successful issue not only for the sake of justice, but in the interests of the profession and the public, for the best interests of the public are not served by injustice to medical men, and such oppression and "perversion of justice" are only possible whilst we submit to them. I wish to mention that I have not as a Fellow and Member made application to my College under By-law XV., though fully aware of its meaning and importance; but have, without any such claim, found the College at once, on the invitation of the Civil Rights Defence Committee and on my application, irrespective of the by-law, act in the same spirit as that which prompted the formulation of so admirable a provision—a spirit worthy of emulation by all bodies corporate in their relations to their constituents, whether graduates, Fellows, Members, or Licentiates. It would be difficult to express the comfort I have derived from the moral support of my College under great and prolonged suffering and under the sense of injustice and oppression from quarters whence we are taught to expect only "justice" and "right"; but, however inadequately, I desire to publicly acknowledge it, and I am sure that, as the proper occasion arises, all necessary support will be afforded for the vindication of what you well describe as fundamental rights.

I am, Sirs, your obedient servant,

May 11th, 1896. R. B. ANDERSON.

"THE REGISTRATION OF MIDWIVES."

To the Editors of THE LANCET.

SIRS,—The admirable letter of Dr. Frazer in THE LANCET of May 9th comes as a relief to many of us. The solution of the problem by a Bill based upon the lines set out in it will doubtless be a satisfactory one. These lines, I venture to say, are sound ones, and it is to be hoped that all interested in the subject will combine to produce a Bill which will command united support. The only difficulty I foresee is to be feared from the Midwives' Registration Society, but it is to be hoped that its members will, before it is too late, change an attitude of dictation into one of conciliation.—I am, Sirs, yours truly,

Hatfield, Herts, May 10th, 1896. LOVELL DRAGE.

OXY-CHLOROFORM ANÆSTHESIA.

To the Editors of THE LANCET.

SIRS,—In view of the publicity that the subject-matter of this letter is acquiring it is fitting that you should at least be made acquainted with the fact that in the early months of the year 1891 I first directed special attention to the physiological effects of the inhalation of chloroform. I was led to investigate the matter by the fact that after an experience of some thirty years I continued, in spite of every possible precaution, to meet with cases of "accidental asphyxia," and three successive ones determined me, if possible, to get at the cause of these so-called accidents and to devise a method by which they could be obviated. With your permission I will recapitulate two or three important points connected with the physiology of anæsthesia, and these may be best expressed in the words of the Hyderabad Chloroform Commission: (1) that chloroform has never, under any circumstances whatever, a direct action upon the human heart; (2) that the primary effect of chloroform is to lower the blood pressure, dilate the arterioles, and slow the circulation, both systemic and pulmonary; and (3) that after a certain stage the respiration is slowed, this being in direct proportion to the fall in the blood pressure. Such was the extent of our knowledge when my attention was first directed to the subject, and in stating this I do not profess to have added to our knowledge of the physiology of the process; but accepting the conclusions of the Hyderabad Commission I have arrived at what seems to me to be a rational explanation of the occurrence of asphyxia, and, what is more to the purpose, at a practical and safe method of averting it.

I regard the asphyxia as dependent upon a twofold cause—viz., a lowered blood pressure, with its attendant slowing of the pulmonary and systemic circulation, and a corresponding slowing of the respiration which, interfering with the normal rapidity of aeration, of necessity interferes with the due elimination of the CO_2 of the system. As a result of this slowing of the respiratory and circulatory systems we have by continued inhalation the cumulative effects of an active poison. It was a consideration of this latter fact which led me to devise the method of prevention which I now submit to your notice. It consists simply in the inhalation of a mixture proportionate to the requirements of the case of chloroform vapour and oxygen gas. This by maintaining perfect aeration throughout the whole process ensures regular respiration, consequently escape from the danger attending languid circulation, irregular respiration, and imperfect aeration—viz., asphyxia. Sudden lowering of the blood pressure with pallor the indication of approaching asphyxia, cannot occur because, the nutrition of the heart being unaffected, stagnation in the systemic vessels is prevented by normal activity of circulation. Again, let the required dose of chloroform be what it may, it

is impossible to narcotise the respiratory or vaso-motor centres, because, being carried more rapidly to these nerve centres, they succumb the more readily to its influence, less chloroform is necessary, and its action is limited to the suspension of consciousness; recovery, too, is prompt, there being a total absence of the deadly depression which obtains under the old system; and last, but not least, the fortuitous element in chloroform anæsthesia is eliminated to the manifest advantage of all concerned.

A word or two here upon the subject of inhalers may not be out of place. It is, I believe, generally conceded that safety depends, not only upon who gives, but upon the mode of giving, our anæsthetic: but this to be absolutely safe must, whatever the form of the inhaler, be in combination with pure oxygen, regulated and controlled in the manner carried out by Messrs. Arnold and Sons of London.

I am, Sirs, yours truly,

THEO. G. H. NICHOLSON, M.R.C.S. Eng.

Catharine-street, Liverpool, May 8th, 1896.

HORSHAM UNION INFIRMARY.

To the Editors of THE LANCET.

SIRS,—Your strictures on the nursing arrangements at the Horsham Union Infirmary have not surprised me. It fell to my lot to have to visit an inmate in that institution some years ago, when I remarked the unwholesome quality of the bread and butter supplied at the evening meal—the former being of an ash-grey colour and evidently ill-made, while the butter was simply dirty. Though not connected with this union I thought it my duty to call the guardians' attention to the state of the bread-supply; but when my letter was read to the board at their next meeting one of the house visitors resented my remarks and declared that the bread was so good that he should not hesitate to set it before his own family. When the supervision of an infirmary is in such hands one could not expect the nursing and general *ménage* to be of a high order.

I am, Sirs, your faithfully,

Guildford, May 12th, 1896. HENRY TAYLOR.

SANITARY AUTHORITIES AND THE INFECTIOUS DISEASES (NOTIFICATION) ACT.

To the Editors of THE LANCET.

SIRS,—Under the Infectious Diseases (Notification) Act, 1889, has a sanitary authority the power to exclude any disease it thinks proper from the diseases to be notified under Section 6 of that Act? Also, in the case of an outbreak of an infectious disease if two or more persons are attacked in the same house, is it the duty of the medical practitioner in attendance to notify each case separately, and, if so, is he entitled to a fee for each notification? I should be pleased if you would let me have an expression of your views on the above points.

I am, Sirs, yours faithfully,

Dukinfield, May 9th, 1896. E. A. CLARKE.

*** Wherever the Infectious Diseases (Notification) Act has been adopted all the diseases mentioned in Section 6 must, under penalty, be notified by medical practitioners, and no power is given to a sanitary authority to relieve anyone of this obligation under the Act. The same applies to any diseases added either permanently or for a term of years under Section 7 of the Act. Except when otherwise provided for under a special local Act, each case in a house must be separately notified and the same fee has to be paid for each certificate.—ED. L.

THE BARGAIN OF THE RECRUIT.

To the Editors of THE LANCET.

SIRS,—Your Special War Correspondent's article in THE LANCET of May 2nd on the troops in health, their feeding, &c., has interested me much, and I am certain will also be of interest to all who have the welfare of Tommy Atkins at heart. Do we ever consider what sort of a bargain the soldier makes with his country when he enlists? Do we remember sufficiently what he brings into the contract?

A military life may possess its attractions but it also has its drawbacks, and anyone entering upon it must be prepared to sacrifice a great deal. To a soldier, especially when called upon to go abroad or join a campaign, home ties and domestic attractions must be, at any rate for a time, buried luxuries. His tenure of office is uncertain, his employment exceedingly precarious, and his remuneration quite out of proportion to the discomforts experienced and the risk he runs. True he can point to the prospects of a pension in his old age; but how many ever reach such a long-wished-for, well-worked-for goal? A return recently asked for in the House of Commons, if supplied, might possibly answer this very momentous question for us. I believe the number to be very small. Any individual joining the service gives the best and most active part of his life to it, and be he either a short- or long-service man, when he quits the army or navy in quest of employment, having borne, perhaps, for years a character for honesty, sobriety, and application, how often is he successful in securing a situation for which such an exemplary life is so admirably qualified to fill?

He must be possessed of a thoroughly sound mental as well as physical organisation on joining the service, and how often one, or maybe both, of these qualifications are impaired or even destroyed by the foreign service he is called upon to undertake. Surely, then, it behoves our Government to take good care of this excellent material when they get hold of it: to ascertain that the very best of food, drink, clothing, and healthy instruction and amusement be supplied the soldiers; and when sick or wounded to have them carefully attended to and nursed by the best professional services at their disposal. And last, but by no means least, Government should do something to prevent these old fellows—heroes of many fights—finding a cheerless and probably heartless reception in the workhouses or even worse asylums of the rich country for which they have worked and bled. How this is to be done certainly is a problem that remains to be solved, but one nevertheless capable of solution if the momentous question be grappled with by our Parliament in a way it ought to be—and that, too, without delay if the State desires to escape handsomely from an ever-increasing anxiety, and one moreover which confronts its members at every step. Just consider what each recruit brings in as his share of what may be justly termed "invested capital"; what physical and mental qualifications are demanded of the novice before he can expect to satisfy the requirements of the military medical officer who examines him. And let me here remark that even when he has successfully passed his medical examination the applicant may be rejected ultimately on other grounds, for although medical officers in approving recruits have to conduct their examination and record facts arrived at with due care and to the best of their judgment, they are never held responsible for the ultimate rejection of the man on grounds involving a decision contrary to the opinions they may have expressed. On presenting himself for approval the would-be soldier must first of all prove that he is sufficiently intelligent. I presume by this requirement it is merely desired that he should be able to read and write fairly, understand something of figures, as well as exhibit an ordinary amount of intelligence regarding persons and things generally. Then his power of sight is tested and very carefully inquired into, letters and numbers corresponding to Snellin's optotype (test-types for the determination of acuteness of vision) being used for testing the eyesight of each candidate. He is required to pass types numbered D = 6 at 6 metres, or 20 ft. away, each eye being separately tested for that distance. Should the candidate be unable to read with each eye separately and without the aid of glasses Snellin's type marked D = 36 at a distance of 20 ft.—i.e., if he does not possess one-sixth of Snellin's standard of normal acuteness of vision—although he may be able to read types D = 06 at some distance with each eye—he will be rejected as unfit for service. And, finally, he must in nowise be colour-blind. His weight must be normal according to standard. His ears are then examined in order to ascertain there is no defect as far as they are concerned. His speech must be clear and devoid of impediment. The glands of his body undergo an examination in order to ascertain if there exists any enlargement of them anywhere or any marks of a tuberculous tendency apparent. He must be at least 5 ft. 4 in. in height, and his chest measurement not less than 34 in. in circumference.

Moreover, it should be well formed and fully developed, a maximum expansion of about 2 in. to 2½ in. being admitted. His heart and lungs must be normal and quite sound. He must not be ruptured. His limbs must be well formed and quite fully developed, with freedom and good movement in all his joints. Even his toes, feet, and hands are to exhibit perfect formation, and, lastly, he must not exhibit any congenital malformation or traces of any previous acute or chronic disease.

It will be admitted that the recruit brings a good deal on his side into the bargain. It is to my mind a question whether he takes enough out.

I am, Sirs, yours faithfully,

May 4th, 1896. DANIEL DEEVER.

"CHARITY BEGINS AT HOME."

To the Editors of THE LANCET.

SIRS,—I have just been filling up my voting-paper for the Royal Medical Benevolent College and am grieved with the thought that there are thirty candidates for pensions and forty-four for the school, of whom only five and nine respectively can be successful this year. Among the candidates for the school are two cases of boys made orphans by the sudden and violent deaths of medical men in the actual discharge of their duties, and of many others where death has followed directly upon professional avocations. Is it not wonderful that men are still found to embark in practice and matrimony without making any provision for their families by insurance of some sort? Allow me to urge upon the young men who at this time of year are just gaining their diplomas in large numbers that they should at once, and while residing in London, join the Society for the Relief of the Widows and Orphans of Medical Men, 11, Chandos-street, Cavendish-square, where, for a single payment of £20 or an annual subscription of two guineas for twenty-five years, they may at least secure that their belongings shall not be left "absolutely unprovided for." Is it not pitiful to find the widows of well-known and respected London practitioners actually begging for bread because their husbands never took thought for to-morrow in the way suggested?

I am, Sirs, yours obediently,

May 9th, 1896. A VICE-PRESIDENT.

THE ARMY MEDICAL STAFF.

To the Editors of THE LANCET.

SIRS,—In reference to the third paragraph of "Brigade-Surgeon's" letter in your last issue, "the abuse," "the endeavour to degrade," and "to make its members ashamed," &c. I joined the service over forty years ago, and at that time and for some years subsequently "the doctor" was, in nine cases out of ten, one of the most popular members of the mess. He was not A.M.S.; he was a regimental officer, and the question of combatant or non-combant was never raised. To us youngsters he was the mentor and friend—especially the friend—not for professional reasons, as may be suggested, but in all matters where disinterested advice and counsel were required; and he had the ear of the commanding officer, and that was often the channel of putting many small crooked things straight without having recourse to official ways and paths. This was the type of those days, though there were, of course, exceptions.

Yours faithfully,

May 13th, 1896. AN OLD SUBALTERN, XLIV.

"JENNER AND HIS WORK."

To the Editors of THE LANCET.

SIRS,—At the present time, when Jenner's merits in relation to vaccination are exciting so much interest, it may not be altogether inappropriate to refer to some of the views of Sir John Simon who forty years ago, when medical adviser to the General Board of Health, gave such deep attention to the subject and embodied in his letter to the President the digested outcome of opinions solicited by him from the most prominent medical men of that time. It may be remembered that forty years ago no memorial was in existence to the immortal name of Jenner, and Sir John concludes his summary of the feelings of the medical world in these words: "Looking, then, to the whole succession of answers and describing in few words what to myself has been the effect of perusing them I would say that, above all, I am struck with their concord. Two hundred and thirty years have elapsed since Harvey first taught the circulation of the blood: the first announcement of Jenner's discovery was but within the adult memory of men who are still living, yet questions addressed to the Governments of Europe and to 542 professors and practitioners of medicine with respect to the older truth, basis though it has long become of all physiological teaching, could hardly elicit more unanimous replies than those which recall the triumphant successes of vaccination. It can be no common certainty which commands so general an assent. It can have been neither a truthless nor a barren doctrine which, within sixty years from its rise, has all but universally satisfied private judgment and has converted nations to be its grateful followers.

"No truth can be thought of against which some one does not rail. And it would be idle to hope, under existing conditions of the human mind, that vaccination should be much more generally credited than it is. Perhaps in no age of the world, proportionately to its instruction, have persons been readier than now to accept physical marvels, and to modify their conception of natural laws at the cajoling of quacks and conjurors. It goes with this credulity to be incredulous of proven truth. Alike in rejecting what is known, and in believing what is preposterous, the rights of private foolishness assert themselves. It is but the same impotence of judgment which shrinks from embracing what is real and lavishes itself upon clouds of fiction. To some extent, therefore, it may be felt a weary and unprofitable work to have spent time and labour in reasserting proofs which, fifty years ago, were exhaustive of their subject; and many eminent men who have favoured me with their assistance may grudge to have given it against superannuated error. Yet if, in final acknowledgment of this assistance, I may be permitted to express what—far better than any thanks of mine—may requite those respected contributors for the trouble they have incurred I would say that they have given to Jenner the monument which, beyond any other, he would have prized. They have made it easy to estimate the full measure of gratitude which is due to the discoverer of vaccination. They have displayed as actual experience what it formally must have seemed mere enthusiasm to foretell. You will read it in the skilled evidence of individuals who, solely with the resources of Jenner's antidote, are maintaining day by day against the most dreadful of infections the victory which he commenced; you will read it in the colossal statistics of nations which, till sixty years ago, were still decimated by that one messenger of death.

"If utility to human life be any test of what is noble in labour, if our teachers of inductive philosophy have rightly advised us—*non tantum veritatè et ordini, verum etiam usui et commodis hominum consulere*—then assuredly the discovery of which those things are told may rank with any achievement of man. 'Let men rejoice that there has shone so great a splendour from amid their race' is the bidding which, at Newton's tomb, reminds us of our immortal debt to the greatest interpreter of nature and claims kindred for us with the power of his intellect, passionless and 'almost divine.' If corresponding honour be due to the beneficent applications of science, if our immortal state owes love to those who have lessened its weakness and its misery, surely in Jenner has been a second student of nature, who, matchless as Newton in career, might have claimed to lie beside that monarch of the intellect in his last repose and to share the inadequate homage of that grateful epitaph. For though a different it is an equal praise which the members of Jenner's profession vindicate for his honoured name. He too interpreted nature; but, above all, he rendered her teaching fruitful to arm mankind against the worst of pestilences, to widen by his one discovery the horizon of human life, to banish a cruel terror from every mother's heart—such were Jenner's aspirations in his study of nature, such have been the fruits of his philosophy. Members of his profession esteem it their noblest vocation to imitate the endeavours which led him to this transcendent result; and I believe that they, whose contributions to the following pages I respectfully lay before you, will have felt an almost filial pride in expressing their knowledge of facts which consecrate Jenner's place in history."

I am, Sirs, yours faithfully,

London, W., May 11th, 1896. E. A. B.

THE BATTLE OF THE CLUBS.—XXX.[1]

(*Continued from p. 1314.*)

LINCOLN: A MEDICAL PROTECTION FUND STARTED.

WE have received the following communication from Dr. Carline, which we gladly publish. His letter tells very succinctly and clearly the way in which the medical profession has been exploited in Lincoln, and confirms fully our Special Commissioner's report. We wish the New Provident Association every good fortune. The complete success that has attended similar movements when the medical men have determined to help the poor in their own fashion and consistently with their own dignity, and not at the beck and call of lay wire-pullers, encourages us to believe that the disinterested action of the three gentlemen who, for the good of the profession, have refused further connexion with the existing medical aid associations will be duly rewarded. In the meantime we recommend Dr. Carline's letter to the generous attention of our readers.

To the Editors of THE LANCET.

SIRS,—I was requested by a meeting of the medical profession held at Lincoln on the 11th inst. to ask you to kindly insert the following appeal for funds in your next issue.

I am, Sirs, yours truly,

Lincoln, May 12th, 1896. W. A. CARLINE, Hon. Sec.

To the Editors of THE LANCET.

SIRS,—Doubtless the majority of your readers have watched with interest the fight which is in progress in Lincoln. However, when appealing to the profession for assistance a short *résumé* of the facts may be useful. The area worked by the Lincoln medical clubs has a population of 50,000, and of this number some 20,000 obtain their medical attendance through the clubs at reduced rates. The clubs have amalgamated and formed two large institutions managed by lay committees. The resident medical officers, though debarred from private practice, do not receive the whole of the money earned by their exertions. All classes are invited to join these institutions, hence the medical officers have to attend wealthy tradesmen and others in a large way of business as well as those who have retired in affluence. All the abuses of the club system are here in their worst forms. The medical officers of these institutions, having felt that under these circumstances their continuance in office was not in accordance with the usual standard of professional ethics, approached the Lincoln Medical Society with a view to combined action for the remedying of these abuses, and as a result the clubs were asked to establish a wage limit and make sundry other alterations. The committees, however, which are chiefly composed of the interested members, have refused to consider the proposals, and consequently three of the medical officers have resigned and the private practitioners of Lincoln have pledged themselves unanimously to refuse to meet in consultation any persons who may be induced to fill the vacancies. To prevent any injustice to the working-man a provident medical association is being formed which will be chiefly under medical management and will be free from the abuses of the present institutions. In the meantime the lot of the three medical officers who have resigned is a hard one. They have no private practice to fall back on, and yet in the interests of the profession they have thrown up their appointments, thus cutting off their only source of income. Such disinterested action throws a responsibility on their professional brethren, and to meet this the "Lincoln Medical Protection Fund" has been started. The Lincoln medical practitioners confidently appeal to the profession to help them and show their appreciation of the generous way in which these gentlemen have considered the general good rather than their own personal profit. It should be stated that the fund will help to maintain these gentlemen in the New Provident Association until this pays its way, the success of which would mean victory for the profession, and a victory in this stronghold of the club system will immensely help the cause elsewhere. Subscriptions will be thankfully received and acknowledged by the honorary treasurer, Dr. W. A. Carline, Lincoln. Signed by request of a meeting of the Lincoln practitioners. GEO. MITCHINSON, Chairman.

Amounts already received or promised:—

	£	s.	d.		£	s.	d.
C. Harrison	5	5	0	W. H. B. Brook...	5	5	0
G. Mitchinson	5	5	0	E. Palmer	5	5	0
J. T. Collier	5	5	0	W. A. Carline	5	5	0
G. H. Mounsey...	5	5	0	D. Johnston	5	5	0
F. S. Lambert	5	5	0	E. Whitwell	5	5	0
F. Genney	5	5	0	W. McDade	5	5	0
Wm. O'Neill	5	5	0	A. P. Russell	5	5	0
G. Lowe	5	5	0	F. B. Cooper	2	2	0
B. McFarland	5	5	0	G. J. R. Lowe	2	2	0
R. M. Sympson...	5	5	0	A. D. Roberts	2	2	0
J. S. Thompson...	5	5	0	T. H. White	2	2	0
C. Brook	5	5	0	A. L. Peacock	1	1	0
W. J. Cant	5	5	0	D. J. G. Watkins	1	1	0

BENEFIT SOCIETIES AND MEDICAL MEN.

A conference was held at the Town-hall, Trowbridge, on May 2nd between representatives of sick benefit societies and medical men in response to a circular issued by Mr. C. E. S. Flemming, M.R.C.S. Eng., L.R.C.P. Lond., of Freshford, near Bath, setting forth that "it is the opinion of medical men that there is an abuse of friendly societies, whereby persons obtain medical aid who are not in a position to need it, which not only affects the various medical officers, but is in many and important respects harmful to the societies themselves. Lord Edmond Fitzmaurice presided, and the medical aspect of the case was described by Mr. C. E. S. Flemming and Mr. A. W. Dalby, L.R.C.P. Edin., of Frome. Medical men from Trowbridge, Bradford-on-Avon, Calne, Devizes, Warminster, Frome, and Freshford were present, and also delegates representing the principal friendly societies in West Wiltshire and the Frome district of Somerset. Mr. Flemming said that club practice was not sufficiently remunerative to enable a medical man to live; he must have a certain proportion of private patients, and if he found these private patients becoming club patients it was only natural that he should complain. No medical man, however, objected to attend a *bonâ-fide* working man as a club patient. A long discussion followed. Many of the delegates held that the medical man had a grievance, but considerable opposition was shown by them to a suggestion that those who are in receipt of £2 per week wages or who live in a house of the rateable value of £15 per annum should not be taken as club patients, and they stated that circumstances in these respects varied in each district. The following was ultimately agreed to with a few dissentients: "That the medical men at this meeting have suggested that £2 per week wages and £15 per year rateable value be adopted as the limit to prevent persons obtaining medical aid from friendly societies who by position do not require it, and that it be recommended by this meeting to the various friendly societies to consider whether any, and if so what, limit can be imposed upon the membership of friendly societies so as to accomplish the above objects."

MEDICAL UNION AT NOTTINGHAM.

On Wednesday, May 6th, the second meeting of this union was held. It was announced that a large proportion of local medical men had already joined the union, while others had expressed their intention of doing so. The meeting proceeded to elect a president, treasurer, and two secretaries, and a council consisting of fourteen representatives of the town with ten of the adjoining district. The council was instructed to at once consider measures to combat the abuses of medical aid and life assurance societies. The meeting was very well attended and throughout harmonious.

THE ASHANTI EXPEDITION.

(BY OUR SPECIAL WAR CORRESPONDENT.)

V.[1]

The Troops in Sickness.

I WILL now give details relating to our troops in sickness as far as the recent campaign to Ashanti is concerned, and in doing so will endeavour to show how varied have been the symptoms, not only in intensity, but also in duration, which

[1] The previous articles on this subject were published in THE LANCET on the following dates: (1) Aug. 24th, 1895, Brussels; (2) Aug. 31st, 1895, Brussels; (3) Sept. 21st, 1895, Portsmouth; (4) Sept. 28th, 1895, Portsmouth; (5) Oct. 5th, 1895, Eastbourne; (6) Oct. 12th, 1895, Lincoln; (7) Oct. 26th, 1895, Lincoln; (8) Nov. 2nd, 1895, Grimsby; (9) Nov. 9th, 1895, Bexhill-on-Sea; (10) Nov. 16th, 1895, Hull; (11) Nov. 23rd, 1895, Hull; (12) Dec. 7th, 1895, York; (13) Dec. 14th, 1895, Northampton; (14) Dec. 21st, 1895, Fermanagh Medico-Ethical Association; (15) Dec. 28th, 1895, Northampton; (16) Jan. 4th, 1896, Birmingham; (17) Jan. 18th, 1896, Birmingham; (18) Jan. 25th, 1896, Club Practices in Rural and Mining Districts; (19) Feb. 1st, 1896, The Formation of a Provident Medical Association at Folkestone; (20) Feb. 8th, 1896, The Manchester Medical Guild and Medical Aid Associations; (21) Feb. 15th, 1896, The Leicester and Leicestershire Provident Dispensary; (22) Feb. 22nd, 1896, The Organisation of the Profession at Leicester; (23) March 7th, 1896, Loughborough: Local Efforts Defeated by Consultants from Neighbouring Towns; (24) March 14th, 1896, Medical Aid Societies in Small Heath; Medical Clubs at Stockport; (25) March 21st, 1896, General Meeting of the Profession and the Formation of a Union at Nottingham; (26) April 4th, 1896, Nottingham; the London and Manchester Industrial Assurance Company, Limited; the Public-house Medical Aid Clubs; United Action at Lincoln; (27) April 11th, 1896, Leicester and Wolverhampton; a Hastings Dispensary wound up; (28) April 25th, 1896, Walsall, Formation of a Medical Union; the Medical Profession and the Friendly Societies; Trade and Medicine; the Family Clubs; Women's Public-house Clubs; (29) May 9th, 1896, Sheffield: An Ancient Medical Society; Workmen Sweaters; The Old Grievances; Probable Formation of a Medical Union.

[1] Nos. I., II., III., and IV. were published in THE LANCET of April 4th, 11th, and 25th, and May 2nd, 1896, respectively.

have preceded an accession of this African remittent fever, which has placed *hors de combat* nearly one half the troops employed, besides directly or indirectly being the proximate cause of death of seventeen officers and men. From first to last there was little uniformity in the character of the more prominent symptoms or in the way they would attack their victim. One patient, for instance, might complain of simple malaise, think and tell you he had an attack of indigestion, lie down for a short time, and in a few hours be found with a temperature of from 101° to 104° F. Another would perhaps at meal time, especially during the evening, complain of feeling cold and call for his overcoat, and in less than six hours be prostrated with the fever. A third whilst marching would suddenly be seized with a violent headache accompanied with an inclination to vomit, and be compelled to take to his hammock; while a fourth would experience a peculiar feeling along his spine, attended with a feeling of coldness generally, weakness speedily supervening, compelling him at once to seek for medical assistance. In some giddiness and in others lassitude was the first noticeable approach of the complaint. But in the majority of those complaining, if they were destined to go through a lengthened course of the fever a peculiar heavy look of the eyes was very noticeable, and more so if these were suffused, the pupils of the eyes performing their motions very languidly. The seizures in some cases were extremely sudden as well as unexpected—in my own case markedly so. Although I had served on the West Coast of Africa before, as well as been some years in the West Indies and passed through two epidemics of yellow fever, I never suffered from malarial fever until my recent visit to Ashanti. I neither considered myself, as far as constitution went, predisposed to, nor was I in any way afraid of, it, yet I had a severe attack this time for all that. On the day of its accession I had risen after a comfortable night's rest about 4.30 A.M., feeling as well as I had ever done in my life. The majority of the marches were completed and we were gradually nearing King Prempeh's stronghold, and most of us were in high spirits, expecting an easy capture of his place and a speedy return of the troops to the coast line. The Special Service Column was timed to leave Kwissa about 6 A.M. I had arranged to strike my tent early and journey forward on foot with them. My head man overslept himself and, of course, the hammock-bearers followed suit, so that I had to march on that morning without my usual cup of coffee; in fact (what I should condemn in anyone else), I commenced work on an empty stomach. Not only so, but having gone up to camp to learn how Prince Henry of Battenberg was (having ascertained from the Principal Medical Officer the previous evening that he was somewhat indisposed), I was terribly shocked to find that the poor fellow was down with remittent fever and had to be sent back to the *Coromandel* as soon as possible. I had already been considerably irritated by the procrastinating conduct of my Fantee men, added to this the painful intelligence respecting Prince Henry of Battenberg's seizure came as an unexpected blow to further distress and unnerve me. When we looked upon the wan countenance of one of the noblest, bravest, and most lovable of men I ever met with in my life—we all sympathised deeply with him in his misfortunes and truly felt a degree of sorrow that words fail to describe for the dire calamity which had so unexpectedly and so mercilessly overtaken him. Still, everybody encouraged him to hope for the best, and solaced him with the assurance that his enforced "going down" would only be of a temporary character (they had then no reason to think otherwise), and that he, with his bright, cheerful smile, would at no very distant date be taking his part in our midst again. Alas for human judgment. The unexpected often happens and the best prognosis sometimes fails. Daylight was dawning, the various companies with their officers were ready for a start, and clearly rang out in the chilly morning air the command, "Battalion, attention!" "Right!" "By your left, quick march!" Away went those fine fellows of the Special Service Column, stepping out as fresh and fit as if they had just come out of Aldershot. Even then my carriers were not ready, and I had, in order to overtake the rear-guard, to do a little running on my own account, leaving my lazy blacks to follow me at their own jog-trot pace.

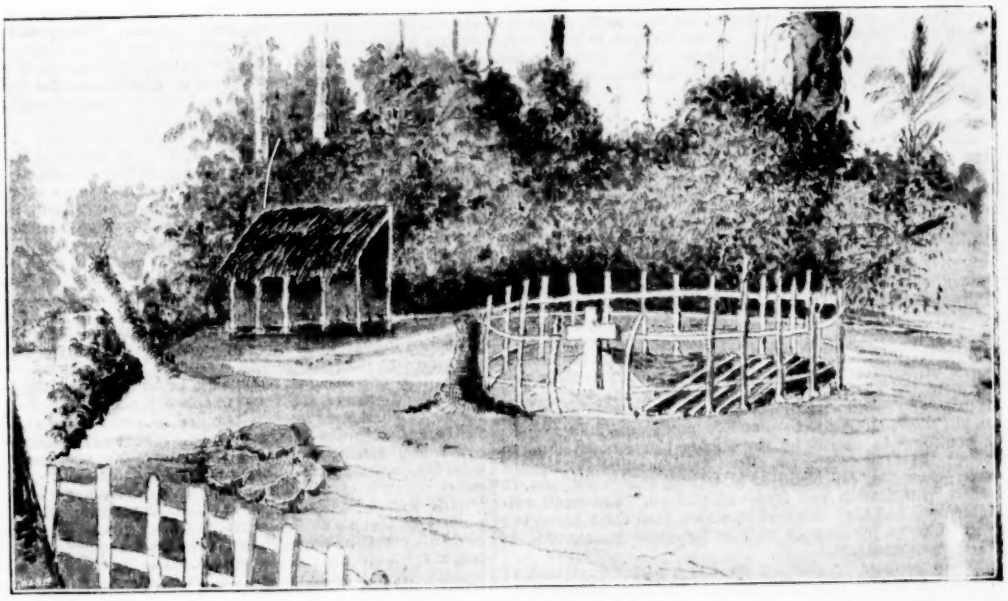
This exertion to a certain extent overheated but certainly did not in any way distress me. Having been an amateur cricketer all my life I enjoy a fair amount of active exercise, and it never tells upon me in a way it might upon others of a similar age to my own. To proceed, however; I came up with Canon Taylor Smith and a military medical officer about half a mile out from Kwissa, and we three were footing it together in the rear of the column, which was marching at a rattling pace towards our destination. Several miles had been covered, and our next station had nearly been reached when quite suddenly I became aware of a sharp pain shooting across my temples, succeeded by a sort of feeling of constriction, as if a string had been tightly tied round my cranium. Thinking that my white helmet, which I was then wearing instead of my ordinary sombrero hat, was possibly the cause of the inconvenience I removed it and carried it under my arm (as the chaplain was also doing), but to no purpose, for, as far as any relief was experienced, I had scarcely gone a dozen yards before I came to a dead halt. All movement in the muscles of my legs ceased, my inferior extremities refused to carry my body an inch further. Moreover, a severe griping pain was experienced at the same time across the pit of my stomach, succeeded by a deadly feeling of coldness creeping over my whole body, my fingers presenting an appearance of lividity. It was some time before my bearers arrived, and when they came up and had lowered my hammock it was with the utmost difficulty that I could manage to get into it.

A few minutes afterwards the Special Service Column was halted and the military medical officer, with the kind approval of the officer commanding, quickly passed me on through the lines to the next village so that my case might receive the attention it required. The time from the first intimation of seizure to perfect helplessness scarcely exceeded a period of five minutes. Prostration was rapid and complete. Added to this I felt terribly cold, with an inclination to vomit, and as the head-quarter staff had not as yet come up I suggested that Mr. Bennet Burleigh should kindly give me forty drops of chlorodyne from a bottle I then had in my travelling case. This dose had the immediate effect of making me vomit a considerable quantity of bilious matter and afterwards of warming me thoroughly and sending me into a pleasant sleep. As soon as Brigade-Surgeon-Lieutenant-Colonel Taylor saw me he promptly pronounced my case to be one of fever and treated me accordingly, and to his kindness and unremitting attention I feel convinced I am indebted for the preservation of my life. Before noticing the more prominent symptoms that accompany remittent fever throughout its successive stages I may here observe that, as far as I was personally concerned, I experienced no pain whatever after the initiatory symptoms had passed off. I felt no thirst during the whole period of my illness, but the sense of taste was completely lost and a desire for food of any kind quite gone. As long as I remained in a recumbent position no serious inconvenience was felt, but directly I attempted to move the pulse appeared to quicken and the superficial arteries of the head to throb with an increased impetus so as to be inconveniently felt when the side of the head was resting on the pillow. In my own case the exacerbations of fever returned with unswerving punctuality every evening about seven o'clock. The paroxysms of distress increased in intensity towards midnight. I lay awake for several hours until that apex of discomfort had been reached, and when the fever symptoms were diminishing in force fell asleep, only to have that brief period of slumber again and again broken by the most hideous and fantastic dreams.

The first case of fever that came under my observation happened at Mansu. The man, a sapper belonging to the advance company of the Royal Engineers, working with a party laying the telegraph wire, was seized with a feeling of cramp in his stomach about 5 P.M. and brought back to camp at the rest station about 8 P.M. the same evening. On arrival he was cold and collapsed, with a quick, thready pulse, foul tongue, and a temperature of 101·7° F. A stimulant was immediately given to him, and he was wrapped in blankets, and put to bed. In the morning he described himself as "feeling much better." As his bowels were confined a slight aperient was administered, followed by three-grain doses of quinine every four hours. The purgative had the desired effect, and the quinine reduced the fever appreciably. He returned to duty three or four days afterwards only to be again placed on the sick-list a week or so later with a less aggravated attack.

In noticing the peculiar character, duration, and course of the attendant symptoms in this and other cases which have

FIG. 1.



Major Fergusson's Grave in Prashu Cemetery.

FIG. 2.

Boat conveying Prince Henry of Battenberg to H.M.S. *Blonde*.

come under my observation I must say I have never noticed any marked shivering at the onset, although prior to the vascular excitement the patient complains of great coldness, sometimes in his stomach, but more often in his limbs, particularly at the extremities of his fingers and toes. This coldness is sooner or latter followed by excruciating headache or a sense of giddiness, intense heat of the skin, restlessness, vomiting, or rather nausea, and dyspnœa. Some experience great thirst, others, strange to say (as in my own case), none at all. In from two to four days the tongue, although moist to the feel, becomes covered with a whitey-brown fur over its top except just at the edge, which remains of a bright-red colour and seems indented at its extremity. The countenance in some is flushed, in others pallid, but the conjunctiva is nearly always suffused, whilst the eyes have a wild, almost maniacal, look about them. The temperature at the onset is generally found to be three or four degrees above normal and varies considerably daily during the continuance of the fever. In the more serious cases the temperature often touches 105·55° or 106° F. without a fatal result to the patient, and I know of one officer whose temperature was at one time as high as 108° F. and yet he pulled through and is still alive, so far as I am aware, to substantiate the fact. In the majority of cases there was considerable tenderness over the epigastric region, whilst the urine at the onset was passed in a diminished quantity and, moreover, in a highly coloured state. During the abatement of the fever the urine is voided less frequently and in increased quantity, and as convalescence is approached it gradually regains its proper hue. The pulse is rapid and small, sometimes very compressible, and seems influenced to a considerable extent by the slightest movement or even noise. In a few cases—not all—a most peculiar fetid odour was noticeable, especially so in strong, robust subjects, in whom perspiration was free and profuse. The smell certainly was not that observed in severe rheumatic cases, but was quite as pungent as well as far more disagreeable to those in attendance.

Some patients on seeking medical advice complained of considerable pain along the spine at the onset of the fever. A subsidence of febrile action in general followed in from four to seven or eight hours, or, at all events, the symptoms if continued beyond the latter period became much mitigated. Diaphoresis came on, the thirst moderated, and the signs of oppression in a great measure disappeared. The perspiration that was a prominent symptom of the complaint continued during the whole of the paroxysm, and after it had passed off the patient appeared considerably relieved, the question "how he felt" in nine cases out of ten eliciting the reply that "he felt quite well." This, however, was more apparent than real, for in a few hours the sufferer was as bad as ever. Sometimes a respite would be extended to some four-and-twenty hours, possibly to even as many as eight-and-forty, but in such cases the fever frequently returned in an aggravated form, as if the febrile action had only rested to return with renewed force. These renewals of exacerbations, moreover, seemed to observe no definite form of periodicity. They would return in some cases at dawn or in others at midday, but in the majority were more frequent in the evening. Under such conditions it can be well understood there was always a difficulty in deciding which were critical days and which were not, but there is little doubt that if no improvement (I mean a complete lessening of the more urgent symptoms) was visible by the end of some ten days the case would turn out to be a very serious one. Moreover, if the urine, instead of increasing in volume with a diminution of colour taking place, presented exactly opposite conditions then uræmic poisoning would probably follow, and "black water" fever, as it is called, had assuredly set in.

On my visiting Prahsu Hospital on Jan. 17th, 1896, I learnt the following particulars from Surgeon-Lieutenant-Colonel Blennerhassett, A.M.S., who kindly placed all records at my disposal. Since Dec. 24th, 1895, the admissions into his hospital were as follows. White officers, 6; privates, 47; coloured officers, 0; coloured troops, 30; general total admissions, 6 officers and 77 men, or 83 all told. The majority of these cases were due to remittent fever, the temperature varying from 100° to 109° F. The latter temperature was reached in the case of the late Major Fergusson, of the Royal Horse Guards, and during his treatment in hospital this very high state of fever was only reduced by wet packing and cold sponging to 104°. The death of this much lamented officer occurred within a few days of his first observable symptom and was due to hyperpyrexia with suppression of urine, accompanied by a hot, pungent, dry skin, which all treatment failed to restore to its normal condition. His decease was as sudden as it was unexpected by those who knew him and loved him so well. He lies buried in Prahsu Cemetery beside another officer who died at this place during a former expedition (*vide* Fig. 1), the small wooden cross denoting the spot where he is interred. Nearly all the officers who resided for any time at Prahsu had an attack of fever. The next highest temperature which was recorded was 105·4°, which occurred in the case of a private in the West India Regiment, and close on his heels followed a company sergeant-major, also of the West India troops, whose temperature reached 105°. A sapper's highest was 104°. The remaining cases varied from 103° to 104°. At one time three out of four medical men were down with this complaint at Prahsu. I have been given to understand that in the matter of medicinal remedies calomel, quinine, antifebrin, and phenacetin, in their order of sequence, proved the most useful in subduing this malarial scourge. Surgeon-Lieutenant-Colonel Blennerhassett says that calomel in moderate doses, followed by magnesium sulphate, proved of great service in clearing the way for the administration of quinine and the other remedies. Prognosis must always be rather gloomy in the cases of sufferers from this kind of fever when a decided improvement is not evident by the end of the tenth day. By this time they generally become irritable, weak, and exhausted, any decided remissions being most indistinctly marked. Moreover, the skin remains dry, the tongue, losing its moist character, appears parched, and the pulse small, feeble, and irregular—in fact, the complaint has then assumed a low and distinctly typhoid character. Notwithstanding this, the patients may again and again, on account of the entire absence of any pain, express themselves as feeling "quite well." When the fever takes a favourable turn the remissions become more and more distinctly marked and the intervals considerably extended. The countenance assumes, too, a far more natural expression. The heat of the skin lessens, thirst is diminished, the pulse becomes fuller and less rapid, whilst the tongue gradually loses its fur and to the touch feels more moist. Diarrhœa often at this time sets in, but generally disappears after four or five motions have been passed, and, with care and good nursing, convalescence is speedily established; but exceeding carefulness must always be exercised during this period of convalescence. Patients improve considerably on removal from the coast to a healthier climate, for instance, seaward or to England, but the transition must not be too abrupt, for it is a well-known fact that these fever cases doing remarkably well for some days on the homeward voyage often suffer severe, even fatal, relapses as soon as they reach the cooler latitudes of the North-east Trades, and many having entirely lost the fever during the trip have experienced quite a serious relapse on their arrival on British shores.

Considering that I was laid by with fever only two or three hours after the late Prince Henry of Battenberg was carried back to the coast I am quite unable to record the subsequent history of his case; but from all I have since learned from those well-qualified to speak he received the best professional attendance and nursing that it was possible to give him. I followed him down to Cape Coast Castle as an invalid by the admirably arranged hospital train, only in time, however, to find he was just being removed to the vessel that was prepared to take him home. Fig. 2 shows the native-manned boat conveying His Royal Highness to H.M.S. *Blonde*, the vessel on board of which he unfortunately died.

INAUGURATION OF THE HAARLEM CHALYBEATE BATHS AND SPRINGS.

(FROM A SPECIAL CORRESPONDENT.)

A NEW health resort has just been inaugurated within easy access of London, the Midlands, Yorkshire, and Lancashire. Valuable mineral waters have been discovered near the old, interesting, and historical Dutch town of Haarlem. Like many other valuable things the discovery was the result of a pure accident. Some fifty years ago attempts were made to drain the Haarlem Mere—a vast sheet of

shallow water covering some 40,000 acres of land. It was correctly thought that the land would be valuable for agricultural purposes if it could be reclaimed, and that its drainage would also contribute to render the town more healthy, for the inhabitants occasionally suffered from intermittent fever. Dykes were built, canals constructed, and windmills erected to pump out the water. The windmills, however, were not powerful enough to effect this end and steam pumps of great strength were obtained from England. At last Dutch perseverance got the better of all the difficulties, the mere was drained, and the whole of the reclaimed land put under cultivation. The rich, peaty soil amply repaid the labour that had been expended. Valuable pasture land was created in some portions of the mere and good crops were grown in other parts. At present one of the favourite plants cultivated is the caraway, which produces the aromatic seed which is used in the manufacture of the well-known liqueur called Kümmel. Several farmhouses were constructed on the mere, and wells had to be dug to satisfy the wants of the inhabitants. To obtain drinkable water it was necessary to dig to a great depth, ninety or more feet, and the wells were all on the Norton principle. When the good water had been reached an iron pipe was inserted. The water then rises up the iron pipe, which protects it from mixing with the water in the higher levels. After some time it was noticed that the cattle that drank the water of one of these wells prospered in so marked a degree that the farmers concluded the water possessed special qualities. A gentleman having noticed that the ditches in which this water flowed were very much stained by iron deposits took some of the water to Mr. Loomeyer, a local chemist, who in his turn brought it to the notice of several medical men. Samples were then sent to Professor Gunning, Demonstrator of Chemistry at the Amsterdam University. Here the water was again analysed. Then a theoretical discussion arose as to the origin of the spring. Did it come from Germany? Was it an offshoot of the celebrated Pyrmont chalybeate springs? This hypothesis was gradually abandoned in favour of the conjecture that it was what might be described as a local mixture. Haarlem is near the sea and all along the shore there is a range of low sand downs which act as a sea wall. The rain which falls on these downs forms a layer of fresh water at but a few feet below the surface of the sand, which, however, communicates with the sea-water that is found at a lower level. The fresh water comes in contact with the iron in the soil and dissolves it out as a ferrous salt. Thus, in this water, as in the Kissengen waters, there is some ammonium chloride present, which, it is urged, must be derived from the sea water and is not due to any form of contamination. In any case the proportion of ammonium chloride is stated to be less than that noticed in the Kissengen waters. Nevertheless, this makes it imperative that the construction of the well should be such as to defy any possibility of contamination. Throughout the whole of this province there is a salt-water layer at about 90 feet to 120 feet below the surface. Two years ago experiments were made and a well was sunk to a very great depth near Haarlem; but the deeper the well the more salt became the water, and with salt water there is always a little ammonium chloride. Ten metres below the surface there is generally a layer of alluvia, and it is supposed that at some 30 metres to 40 metres the fresh water, which, bearing also some phosphates, has dissolved the oxides of iron into ferrous salts, meets some of the salt water, and hence is found a mineral water containing an unusually high proportion of chloride of sodium.

Whatever may be the value of these theories the analysis points to the discovery of a valuable spring. Professor Stockvis had indicated in his remarkable theoretical works on this subject what should be the constituents of a chalybeate water, and when subsequently the waters from the Haarlem Mere were submitted to him he recognised that they contained what he had theoretically held to be the desiderata. Professor Stokvis writes: "I do not hesitate to qualify this water as an excellent ferruginous water, which may unquestionably be ranked amongst other known ferruginous springs; nay, in some respects it surpasses them. This the chemical analysis proves so convincingly that any special recommendation of this chalybeate water seems almost superfluous." Thus encouraged, several gentlemen living at Haarlem pushed the inquiry still further. Some of the water was put in bottles and sent to a large number of medical men in different parts of Holland with the request that they would give it a trial. Seven years ago a sort of congress or meeting was held to which these same medical men were invited. Several attended and compared their notes. The result was most encouraging. Professor Huet of Leyden, notably, compared the water with that of Pyrmont and related the good effect it had produced on his patients. It was then decided to continue to make investigations for another year and to send further samples of the water to medical practitioners. Finally, when, after the lapse of this time, the reports were again found to be, if anything, even more favourable, some of the leading inhabitants of Haarlem determined to try to work the spring commercially. In 1892 a company was formed which proceeded to build a casino at Haarlem, close to the beautiful wood or park of that town.

In view of the approaching season the Wilhelmina Spring Company determined to inaugurate their enterprise by an opening ceremony. A number of English journalists were invited, and on April 12th last, together with seven colleagues of the daily, weekly, and scientific press, I left London at 8.30 P.M. for Harwich. In spite of the rough weather the magnificent new steamers of the Great Eastern Company landed us at the Hook of Holland at five the next morning. By half-past seven we were already at Haarlem. It will be seen, therefore, how easily the journey can be accomplished from London; but it is equally easy to reach Harwich from the midland counties and the north of England. On arriving our first visit was to the bath-house. It consists of a central building, with two low wings on either side, one for ladies and the other for gentlemen. Both sides are similarly constructed. There is, first of all, a waiting-room, then the medical man's consulting-room, communicating with a chamber in which electric baths can be taken, and after this the resting-room for those who have taken their bath. These rooms are so arranged that the medical attendant can, if necessary, render any assistance to the patient. Then there are six ordinary bath-rooms, with glazed hardware baths, hot and cold water douches, &c. Provision has been made for giving chalybeate baths with or without the addition of carbonic acid. Then there are rooms at the back—shut off with double doors so as to keep unpleasant odours from pervading the other parts of the establishment—where sulphur, salt, and mud baths can be given. Douche and jet baths in every possible form have also been provided, and to facilitate the reaction after bathing there is a gymnasium. The whole seems very neat, appropriate, and so constructed as to preserve the utmost cleanliness. In respect, however, to the drainage it may be observed this has not been contrived with sufficient care. At Haarlem the old French heresy, which has so often been denounced in these columns, still prevails. The law does not allow direct drainage into the sewers, but sanctions a system which greatly increases the danger that arises from sewers. Rain water and slop water may drain direct into the sewers, but closets must drain into cesspools. As, however, these are not dry closets, but English wash-out closets with a two-gallon flush, the cesspool is, of course, promptly filled; therefore, permission is given to insert an overflow pipe communicating from the cesspool to the sewer. Under such circumstances it would be much safer to drain directly into the sewer, for then the sewer would only receive fresh sewage, which, if the sewer is properly built and flushed, would be carried away so promptly that it would not have time to ferment and cause mischief. As it is, the sewage goes to a cesspool. The heavy substances sink to the bottom of the cesspool, where they remain for weeks fermenting and polluting to a high degree the water, which, after washing over this foul sewage, is allowed to overflow into the public sewer. It is needless to point out that a cesspool with an overflow does not prevent the contamination of a sewer, but greatly increases that contamination, because it pours into the sewer stale instead of fresh sewage. With sewers thus rendered foul and with a cesspool charged with an accumulation of sewage the precaution of very careful disconnexion between the drains of the bathing establishment and the cesspool and the sewers is more than ever requisite. The water from the baths flows into dip traps situated outside the walls of the baths. But these traps are not ventilated; they are also clumsy contrivances likely to become foul. It is not, however, necessary to enter into a full description of the drainage of the baths, for on my pointing out these defects the directors at once promised that they should be remedied. Indeed, after all the ceremonies and

festivities were concluded the directors and the architect showed me the plans of the drainage, and I pointed out what alterations it seemed to me should be made. Orders were then and there given to at once undertake the works to disconnect and to ventilate every drain pipe and provide both inlet and outlet apertures, so that every drain-pipe may be properly ventilated with a current of air throughout the whole of its course and absolutely disconnected from the cesspool and the sewers.

Haarlem, it is well known, is the great centre of the bulb trade, and just at this moment there are acres upon acres of land covered with beautiful hyacinths and tulips. This suggested that Haarlem, like Nice, might have its battle of flowers. Instead of carriages, however, the carnival was conducted on velocipedes and formed part of the programme for the inauguration of the springs. It is scarcely within my province to describe these festivities. That 40,000 excursionists came from Amsterdam alone to witness the procession is, however, a fact which will suffice to show how much the *fête* was appreciated by the public. There were specimens of velocipedes dating back more than 100 years and others of more recent manufacture down to the most modern improvements, all gaily decked with flowers and mounted by riders in fancy costumes. As they passed the crowd marked its approval by showering flowers upon them. It was an animated, joyful, and pretty sight.

On the following day we were taken to the seaside resort of Zandvoort, which is reached by steam tram from Haarlem in about twenty minutes. Thus it is possible to combine treatment at the mineral springs with sea bathing or healthy exercise on the seashore. A beautiful sandy beach stretches for several miles on either side of Zandvoort, where there are numerous hotels and accommodation for visitors at moderate cost. From this place a pleasant drive brought us to Ymuiden, where the sea canal from Amsterdam falls into the North Sea. Here are some of the largest locks in the world, a new fishing port, and generally much to interest tourists.

It was on the third and last day of our visit that we were taken to the Haarlem Mere to see the springs. After a good long drive we reached that portion of the mere where the springs are situated. A shallow circular well receives the water from the Norton pipe, which is in its centre. At first it consisted only of bricks. These, however, have been carefully covered with cement and concrete and the floor of the well has been treated in the same manner. Thus the surface water cannot penetrate the well. But there was great difficulty in ascertaining what was the depth or length of the Norton iron pipe or what was its actual condition. Ultimately, it was ascertained that the man who throughout this district had sunk these Norton wells had always been obliged to go down to a depth of thirty or forty metres, and there was no reason to believe that this well differed in any way from the others in the neighbourhood. Still, it would have been more satisfactory to have had more positive evidence of the fact. Then there is always the danger that, in the course of time, the iron pipe may so corrode as to admit some small quantity of water from higher levels than that at which the chalybeate water is taken. I, therefore, ventured to suggest that soundings should be made, and, if possible, a glass coating or lining should be introduced within the Norton pipe. The directors endorsed this opinion and promised that measures to this effect should at once be taken. Close at hand there is another spring which contains a much smaller quantity of iron and which has a well constructed in the same manner. This is called the Hollandia spring. The water from this well is placed in iron tanks of 4400 litres capacity and air is blown through for an hour. The air oxidises the iron, which, after twenty-four hours' rest, has all sunk to the bottom of the tank. The water is then filtered through animal charcoal, gravel, and sand, and carbonic acid gas is added. It is then bottled and sold as an aerated table water. It seems to be an excellent water for such a purpose, but the analyses of this spring have not yet been published. The Wilhelmina or Chalybeate spring yields about 60,000 litres in the twenty-four hours, and the Hollandia, or table-water spring, about 40,000 litres.

In the afternoon the Mayor of Haarlem officially opened the pump-room near the casino, where the Wilhelmina water is brought to town through iron pipes, and in the evening a final banquet was given in honour of the guests. At this dinner the director of the company, Mr. J. Scholten, in an eloquent speech, alluded to certain criticisms indicated in this article and promised that the suggested improvements should at once be carried into effect, declaring that no pains would be spared to render the baths and springs of Haarlem perfect in every respect.

Haarlem, April 16th, 1896.

[An analysis of the Wilhelmina saline and chalybeate water was made in our laboratory some time ago and the result was published in THE LANCET of Oct. 6th, 1894. The water was found to be charged with carbonic acid gas under slight pressure, and it was observed that the dissolved iron remained intact for some time; that is to say, the iron did not readily separate in the form of hydrated oxide after the manner of most chalybeates containing iron in the ferrous state. This is probably due to the presence of an important quantity of alkaline salts, consisting chiefly of the chlorides of magnesium and sodium, with a distinct amount also of chloride of ammonium. The presence of these salts, as was pointed out, is doubtless an advantage, especially in regard to the otherwise constipating effect of iron and many of its compounds. The genuine character of the water is established by the fact that a brief examination of the spring made by our correspondent on the spot confirmed, so far as it went, the results obtained with a specimen of the bottled water examined in THE LANCET Laboratory more than a year ago.—ED. L.]

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Ladies' Charity and Lying-in Hospital.

A MOST enthusiastic meeting of the local members of the profession, at which over 200 were present, was held on May 11th at the Medical Institution to consider the recent position taken up by the committee of the Ladies' Charity towards its medical staff, which has involved their entire resignation. The following resolutions were moved in an able and appropriate speech by Mr. Mitchell Banks and carried, the first unanimously and the second with but one dissentient (who, by the way, was completely in accord with the general feeling of the meeting, but differed only in the terms of the resolution):—1. "That this meeting of the medical profession view with much indignation the recent action of the board of management of the Ladies' Charity and desires to express its warm approval of the action of the staff in refusing to hold office under the conditions proposed to them." 2. "That this meeting trusts that while the present regulations are in force at the charity, no member of the medical profession will accept office at that institution or will give assistance on or after the 19th inst. to its officials, either gratuitously or for gain, thus rendering the board of management responsible for any dangerous consequences that may occur to patients treated by their officials." The object of the second resolution was to give timely notice to the board of management that after a certain date—viz., the day following that fixed for receiving applications for the vacant posts—they must not expect any assistance from the late staff. It may be mentioned in passing that the attempts made to induce gentlemen to accept office by the offer of pecuniary considerations were, to say the least, undignified, and it is much to the credit of a respected member of the profession that he declined, when asked to do so, a fact most favourably commented on by his brethren. The meeting mentioned above was attended by two lady doctors, who were in thorough accord with their male brethren. The whole business is discreditable, and it is a matter for much regret that the centenary of the charity should be marred by these unhappy disputes, which in a well-regulated charity ought never to have occurred. It is an additional illustration of the unfortunate consequences which may ensue when the medical staff of any hospital is without a single representative on the managing committee.

Post-graduate Course.

The syllabus of the post-graduate course which has just been issued states that the lectures and demonstrations, of which there are thirty, will commence on May 12th and terminate on June 30th. The lectures will be held in the medical school of University College, Liverpool, on Tuesdays and Fridays from 2 P.M. to 3 P.M. The introductory lecture

will be given on May 12th by Professor Patterson, dean of the medical faculty. The demonstrations will also be given on Tuesdays and Fridays; they will be held at the various general and special hospitals throughout the city.

Death of Dr. J. M. Packer of Huyton.

It was with much regret that the profession in Liverpool and Huyton received the intelligence of the death of Dr. J. M. Packer, who succumbed on the 1st inst. after a few days' illness. Dr. Packer was for many years in practice at Huyton, where he was highly esteemed by his professional brethren and by his patients, whose confidence he completely enjoyed. He was educated at King's College and at St. Mary's Hospital, at which latter he was formerly house surgeon. He obtained the Membership of the Royal College of Surgeons of England in 1862 and graduated as M.D. at the University of Edinburgh in 1863. He was fifty-eight years of age.

Liverpool Medical Club.

The Liverpool Medical Club, which was recently opened, held its inaugural dinner at the Adelphi Hotel on the 30th ult., Mr. Mitchell Banks, President of the club, in the chair. It is registered under the Companies Acts, 1862 to 1890, whereby the liability of the shareholders is limited to the amount of their shares. It has for its objects the promotion of professional unionism and the discussion of ethical matters, besides affording the advantages of an ordinary social club. The premises, which are tastefully furnished and supplied with all modern conveniences, are situated in a central part of the city within easy access of the different railway stations. Dr. Edward Adam is the chairman of the board of directors, the vice-presidents of the club being Mr. J. E. Burton and Dr. G. G. S. Taylor.

Prosecution under the Glanders and Farcy Act.

Proceedings were taken at the Liverpool police-court on the 29th ult. against a veterinary surgeon for neglecting to notify to the police the existence of glanders in a horse which was under treatment in his stables for an injury to one of its legs. At the end of a week it was discovered to be suffering from glanders, and according to the evidence he kept the horse for another week in the same stable with other horses. The prosecution was laid under the Glanders and Farcy Order, 1894, issued by the Board of Agriculture under the Diseases of Animals Act. Persons having charge of an animal affected with glanders are bound to notify the fact to the police, who then apprise the local authority whose duty it is to order the slaughter of the diseased animal and its carcase to be buried, covered over with quick-lime, and with not less than 6 ft. of earth over it. The defendant pleaded that it was a doubtful case of glanders as blood-poisoning might have resulted from the kick, and in the early stages it was difficult to diagnose glanders. He also stated that the horse in question was kept it a loose-box completely isolated from other animals on his premises. The bench, however, considered the case proved, and fined the defendant £5 and costs.

A New Parish Hospital for Toxteth-park.

The Toxteth board of guardians are in similar straits with their brother guardians of the adjoining parish of Liverpool as to the want of accommodation in their workhouse for sick poor. The majority of the guardians at a recent meeting advocated the building of a new infirmary at a cost of £11,000. It was pointed out that the increase in the number of nurses in recent years was an argument in favour of the proposed extension. It was eventually decided to proceed with the new building.

West Kirby Convalescent Home.

This convalescent home has been enlarged by the addition of a new wing, which has just been opened. For some time past the committee have been unable to deal with the numerous applications for admission, and by the generosity of a few friends the funds were provided for erecting the new wing. It is a handsome red-brick building to match the main block, its chief internal features being the provision of isolation rooms for infectious diseases and a special ward for crippled children. There is also a disinfecting chamber and a large, well-lighted day-room. The building, which has cost £3000, will give accommodation for an additional thirty beds.

May 13th.

WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Bristol Eye Dispensary.

THE first annual meeting of the Eye Dispensary since its reconstruction was held on April 28th. The report stated that 1667 patients had been treated during the past year, giving an average of thirty-two fresh cases every week, exclusively of those already undergoing treatment. The financial statement showed that there was a balance in hand of £40.

The Wellington (Somerset) Board of Guardians and the Medical Officer to the Workhouse.

Recently the Wellington Board of Guardians twice declined to grant an application by the medical officer of the workhouse for an increase of salary from £30 to £50 per annum. The officer accordingly resigned. Advertisements were issued inviting applications for the post, but at the meeting on May 1st the clerk reported that none had been received. The board had now decided to apply to the Local Government Board for sanction to increase the salary from £30 to £40.

Annual Extra-Collegiate Meeting of the Court of the University of Wales.

The annual extra-collegiate meeting of the Court of the University of Wales took place recently at Cardiff, Mr. Humphrys Owen, M.P., presiding. Dr. Isambard Owen and the chairman were re-elected vice-chancellors. Lord Windsor, in welcoming the court of governors said that Cardiff took an interest no less than any other part of Wales in the valuable educational work in which the University was engaged. The estimate of expenditure for the year ending March 31st, 1897, amounted to £4496, and has been submitted to Her Majesty's Treasury. The Court empowered the standing executive committee to take immediate steps to raise funds for the purpose of the foundation of fellowships and scholarships.

The Water-supply of Bath.

At the meeting, held on April 30th, of the Bath Waterworks Committee it was reported that the reservoir at Monkswood was nearly completed and that at the present time there were 17,000,000 gallons already stored.

Bacteriological Researches in Connexion with Cheesemaking.

The committee of the Bath and West and Southern Counties Society have fitted up, on behalf of the Somerset county council, a cheese school at Cossington, near Bridgwater. A laboratory has been added to this, and Mr. F. J. Lloyd, F.C.S., is conducting, under the direction and at the cost of this society, bacteriological and other researches in connexion with cheesemaking. Mr. Lloyd is anxious to give information and assistance to any farmers who discover any difficulties in the making of Cheddar cheese.

An Infectious Hospital for the Carmarthen Asylum.

At the quarterly meeting of the Pembrokeshire county council held last week the council approved the proposal of the committee of visitors of the Carmarthen Asylum to erect a new detached infectious hospital for eight beds at a cost of £1000 on the building.

Hospital Saturday in Bristol.

It has been definitely decided that June 13th shall be observed in Bristol as Hospital Saturday. In addition to the usual street collections on that date a *fête* will be held at the Zoological Gardens, Clifton, when an ambulance corps will give demonstrations and several entertainments will be provided. The charities to be assisted are the Royal Infirmary, General Hospital, Children's Hospital, Eye Hospital and Dispensary. It is stated that Bristol has to maintain five principal medical charities at a total cost of over £30,000 per annum; that the city has a population of 225,000, of whom about 3500 are regular subscribers, and the contributions in subscriptions do not reach £8000, or a little more than one-fourth of the expenditure; and that the charities relieved last year 85,000 people, or nearly two out of every five of the entire population of the city.

Increase in Salaries of Poor-law Surgeons.

At the annual meeting of the Chipping Sodbury board of guardians held on April 30th Sir Gerald Codrington, the

chairman, stated that during the past year the board had increased the salaries of Mr. H. H. Williams, L.R.C.P., L.R.C.S. Edin., Mr. Alfred Grace, M.R.C.S. Eng, L.S.A., and Mr. W. J. Cox, M.R.C.S. Eng., L.S.A., the medical officers of the various districts of the Chipping Sodbury Union.

May 12th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Large Bequests to Charities.

THE sum of £39,000 has been allocated to Scottish charities from the estate of the late W. A. Guesdon, who died at Clapham on April 4th, 1891, and who bequeathed £400,000 to hospitals, &c., throughout Great Britain. The details for Scotland are:—

Scotland generally.—Queen Victoria Jubilee Hospital for Nurses, £5000; Orphan Homes of Scotland (Mr. Quarrier), £6000.

Edinburgh.—Royal Infirmary, £3000; Hospital for Sick Children, £1500; Orphan Hospital, £1500; Original Ragged School, £500; United Industrial Schools, £500; Edinburgh Hospital and Dispensary for Women and Children, £500.

Glasgow.—Hospital Sunday Fund for Royal Western and Victoria Infirmary, £5000; Hospital for Sick Children, £1500; Institute for Orphans and Destitute Girls, £2000; Sick Poor and Private Nursing Association, £1000; Glasgow United Evangelistic Association, £1000; Glasgow Industrial Schools at Mossbank (boys) and Maryhill (girls), £500.

Aberdeen.—Royal Infirmary, £2000; Royal Samaritan Fund, £1000; Aberdeen Industrial School for Boys (Oakbank), £250; Aberdeen Industrial School for Girls (Whitehall), £250.

Inverness.—Northern Infirmary, £2000; Highland Orphanage, £2000.

Dundee.—Royal Infirmary, £2000; Working Boys' Home, £500; Working Girls' Home, £500.

The Hospital Sunday Fund, Glasgow, gets the residue of the estate.

Glasgow University.

The University is to receive under the will of the late Dr. John Grieve the sum of £8000, which is to be applied at the discretion of the court to the foundation of a lectureship, fellowship, or scholarship. The present demand for teaching in the subject of public health is very inadequately met by the existing laboratory arrangements and the University Court has decided to equip a temporary laboratory until more satisfactory permanent dispositions are possible. Some recent communications with possible benefactors of the University render it probable that a lectureship in geology will shortly be instituted. The athletic side of university life is to be afforded a further opportunity by the erection of fives-courts. The demands which are to be made upon the medical student under the five years' curriculum in connexion with such special subjects as diseases of the eye, ear, throat, skin, &c., have not yet been issued in an authoritative form, though it is understood they have been formulated by the Senate. This delay is a matter for regret and it may lead to considerable inconvenience. The session is now far advanced and it may well be the case that when the additional regulations appear students will find in them requirements which they can now only meet by taking a number of extra classes in their last summer, amidst the anxiety and excitement of the final examination. Had the regulations appeared a few weeks earlier the student could have arranged to attend the compulsory courses during the present session. This would not only have consulted his convenience, but would have also increased the probability of his attendance being a profitable one.

Glasgow Medico-Chirurgical Society.

The following gentlemen have been elected office-bearers for the session 1896-97:—President, Dr. W. L. Reid. Section of Medicine: Vice-President, Dr. Alex. Napier; Councillors, Dr. R. B. Ness and Dr. Maitland Ramsay; Secretary, Dr. Hinshelwood. Section of Surgery: Vice-President, Dr. Newman; Councillors, Dr. Walker Downie and Dr. J. H. Nicoll; Secretary, Dr. John Barlow. Section of Pathology: Vice-President, Dr. T. K. Monro; Councillors, Dr. Lindsay Steven and Dr. Rutherfurd; Secretary, Dr. R. M. Buchanan. Section of Obstetrics: Vice-President, Dr. Samuel Sloan; Councillors, Dr. J. Nigel Stark and Dr. Edgar; Secretary, Dr. Lawrence Oliphant. Treasurer, Mr. Henry E. Clark; General Secretary, Dr. C. O. Hawthorne.

Medical Appointments, Glasgow.

Dr. J. B. McKenzie Anderson has been appointed assistant dispensary physician to the Royal Infirmary. Dr. John Wright is to succeed Dr. J. Boyd as casualty police surgeon in the western police district. The resignation of Dr. Ernest L. Marsh as senior assistant medical officer in the Belvidere Fever Hospital is announced. He is to be succeeded by Dr. Andrew Watson. Dr. Francis Gairdner has been appointed one of the junior medical officers to the hospital.

Broomhill Home for Incurables, Glasgow.

The annual sale of patients' work took place on the 9th inst., the sale being declared open by Sheriff Cowan, Paisley. There are at present in the home about 100 patients and those in receipt of out-door relief number nearly 200, the lack of funds preventing other applicants being placed on the books. The sale was largely attended, many of the best-known practitioners in the west of Scotland being present. The proceeds exceeded £250.

Aberdeen Royal Infirmary.

A three days' sale of work (including a "jumble" sale), promoted by the ladies' working party, took place last week in the Drill Hall, Woolmanhill, Aberdeen. The full proceeds, to be handed over to the Royal Infirmary, amount to rather more than £200. Dr. Robert John Garden, one of the surgeons of the infirmary, and Mrs. Garden took chief charge of the arrangements.

Aberdeen University Buildings Extension.

The executive committee met on May 8th, the Marquis of Huntly in the chair. A financial statement was submitted showing that the amount subscribed at March 20th, 1895 (the date of the late Mr. Charles Mitchell's additional offer of £6000), was £32,167 15*s.* 9*d.* The amount subscribed at the date of the meeting being £42,563 8*s.* 10*d.*, giving a difference of £10,395 13*s.* 1*d.*, the condition that £10,000 must be subscribed to secure the additional gift of £6000 has been fulfilled. The money thus raised will go towards the erection of the south wing. It is now expected that Government will give a further grant of £15,000 towards the scheme. The total sum collected up to May 8th was £109,563 8*s.* 10*d.*

May 12th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Irish Public Health Bill.

THIS Bill has now been received from the Standing Committee on Law in an amended form and provides amongst other matters that the Local Government Board may invest a rural sanitary authority with the power of an urban sanitary one, that sanitary authorities in adjoining districts may combine for the execution of works, and that superannuation allowances to officers may be made in consideration of duties under the Public Health or under this new Act.

The City of Dublin Nursing Institution.

This institution, which is connected with the City of Dublin Hospital, has proved to be a great success. On the 9th inst. a large and very distinguished company were invited to an afternoon entertainment at 27, Upper Baggot-street, on the occasion of the presentation of an address and service of plate to the lady superintendent.

Belfast Hospital for Consumption and Diseases of the Chest.

At a meeting of the supporters of this hospital, held on May 5th, the following resolution was passed unanimously: "That the committee appointed by the resolution passed at an extraordinary general meeting of Feb. 3rd last, to prepare the draft of an agreement to carry out the proposed amalgamation of this hospital with the Forster Green Hospital for Consumption and Diseases of the Chest, having this day submitted same, this meeting approve in all respects of such draft scheme and agree to same, subject to our trustees obtaining the sanction of the Court of Chancery thereto." In accordance with this arrangement there will in the future be only one hospital for consumption and diseases of the chest in Belfast.

An Ulster Poor-law Board Superseded.

A sealed order has been forwarded by the Local Government Board to the Castleblaney Union removing the present board of guardians of Castleblaney from their office and appointing Mr. Agnew, Local Government Board inspector of Belfast, acting guardian for the time being. The reason for this step is the fact that the Poor-law guardians of that union refused to carry out the instruction of the Local Government Board with reference to the building of labourers' cottages in that union.

The Belfast City and District Lunatic Asylum.

At the meeting of the governors, held on May 11th, Dr. Cuming, in accordance with his notice of motion, moved: "That the commissioners of control be requested to advertise for competitive plans for the erection at Purdysburn of two chronic blocks for the reception of 300 patients, and such portions of the administrative buildings as are necessary for an asylum capable of containing hereafter 800 patients, with facilities for future extension to 1000 patients; and that the Purdysburn committee be requested to negotiate the special manner of carrying out the project, subject to the approval of the board." There can be no doubt that, as pointed out by Dr. Cuming, the present state of things as regards the disposition of lunatics in Belfast is a public scandal. A large number of patients are in the union workhouse who ought to be in the asylum instead of where they are, and we are constantly being confronted with expressions of public opinion to this effect, sometimes in the form of verdicts of coroners' juries and sometimes by other forms of protest. The asylum at present is notoriously overcrowded and the crying necessity for proper accommodation can be no longer put off. Further, owing to the overcrowded state of the asylum and to the statements made from time to time that the workhouse was not a suitable place for insane people, Dr. Cuming said a large number of insane people who ought to be placed in such an institution are being actually kept at their homes. It is high time that this state of affairs should be ended. Dr. Cuming's motion was carried and it is hoped it will tend to end the present deadlock.

The Battle of the Clubs at Cork.

The fight with the clubs at Cork has lost much of its local interest as the newspapers have ceased to insert any correspondence on the subject. The club members generally are anything but pleased with the present state of affairs, and they have been hoping against hope that something may occur to break up the organisation of the medical men, but there is not the slightest indication in that direction—on the contrary, many of the medical men are coming to realise that it would be better for the profession at large if the yearly contract system could be abolished completely and an arrangement instituted in its stead by which small payments per visit would be made by artisans and others who could not pay ordinary fees. The result of the contest in Cork so far has been that the profession has, in the aggregate, received a larger amount of money. Indeed, one Cork gentleman who resigned his clubs states that last year he received more in private fees from club patients than his salary would have amounted to, and his was by no means an isolated experience. The senior medical men, too, now receive fees from wealthy club patients who formerly paid miserable doles to club officers. Experiences of that kind as well as an admirable *esprit de corps* tend to weld together the medical men of Cork in defence of their common interests. The pitiable part of the whole business is that the poorer club members who have been cajoled by their richer brethren are obliged to avail themselves of the services of the imported club medical officers whether they have confidence in them or not. If those three medical men happened to be specialists in every branch of medicine it stands to reason that many of their patients would one time or another desire a change, but now the struggling artisan who is a member of one of their clubs not alone has no choice, but outside the three he cannot even have a consultation. It is very gratifying to the Cork profession to find that the movement of which they have been the pioneers has extended so rapidly over England. One good result they hope for is that a bond of union will be established between medical men all over the United Kingdom, and that thereby the dignity and the interests of the medical profession will be everywhere maintained.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Statistics of Scarlet Fever at the Hôpital des Enfants Malades.

THE Children's Hospital of the Rue de Sèvres received in 1885 256 cases diagnosed as scarlet fever. In nineteen instances there was an error of diagnosis, and two of these children contracted the disease during their sojourn in the wards. Be it noted that it was only as recently as Jan. 1st, 1896, that a separate ward was opened for these doubtful cases. The nett mortality was 5·85 per cent., a great improvement on previous figures, especially when we consider that half of the deaths occur in children brought in in a desperate condition. The other causes of death were broncho-pneumonia (3), secondary infectious sore throat (1), tuberculosis (1), and entero-gastritis of nurselings (2). The most frequently noted complications were early cynanches with white deposit (32 per cent.), generally of a mild type with creamy exudation, sometimes pseudo-membranous, and occasionally accompanied with nasal discharge, suppurating glands, and serious symptoms of infection; secondary cynanches, assuming generally the diphtheria type, but invariably streptococcic (only one of these cases died); suppurative adenitis (7 per cent.); and suppurative otitis (20 per cent.), appearing generally at the moment of the disappearance of the sore throat. Albuminuria was present in 20 per cent. of the cases, but in 8 per cent. this was only transient. In 6 per cent. the albumin was synchronous with the onset of the complication and disappeared with it. In only 6 per cent. was there scarlatinal nephritis properly so called, with anasarca and sometimes hæmaturia and anuria. Two-thirds of these cases of scarlatinal nephritis were acquired outside the hospital, six only contracting it in the wards where all the patients were put on strictly milk regimen. Pulmonary and pleural complications were very rare (broncho-pneumonia, always of a severe type, 5 per cent., and empyemata, 2 per cent.). Cardiac complications were still more rare, only one case of mild endocarditis being noted. Arthralgia (2 per cent.), synovitis (1 per cent.), and suppurative arthritis (1 per cent.) were also infrequent. In one case of suppurative arthritis the streptococcus was discovered, the pus from the rest of the cases being free from micro-organisms. Three-fourths of the cases of scarlet fever occurred between the ages of three and nine years. Above nine years of age the mortality was *nil*; in patients of one and two years of age it ranged from 50 to 11 per cent. The disease was most frequent in spring and summer, the complications most frequent in autumn, and the mortality highest in winter (22 per cent.) and nearly *nil* in summer and autumn (only one death from June to the end of November). Thirty-two children suspected of diphtheria received on their admission 20 c.c. of Roux's serum. Twenty-eight per cent. of these had serum eruptions (generally a fortnight after the injection), these being morbilliform and accompanied with joint-pains. In no instance were these rashes followed by serious symptoms and they invariably disappeared in from twenty-one to twenty-eight hours. Dr. Sevestre's remark that these measly rashes were more commonly associated with streptococcic sore throats was confirmed at the Hôpital des Enfants Malades. Two trials of Marmorek's serum were not encouraging in their results. The routine treatment pursued was strict milk diet, acetate of ammonia (1 or 2 grammes daily during the eruptive stage), buccal irrigation, with aromatised boiled water, and the injection into the nasal fossæ of mentholated oil. Despite these precautions and the low mortality the morbidity in the scarlet fever wards was high, 43 per cent. of the patients having been affected with complications (secondary sore throats, otitis, suppurating glands, albuminuria, broncho-pneumonia, &c.). This morbidity is ascribed to the defective state of the wards, the scarlet fever cases (like the measles cases) being lodged in rooms which are too small, too dark, and generally antiquated, and there being no wards wherein to isolate the children suffering from complications. Funds for the construction of new wards have been set aside for some time by the Assistance Publique, but red-tapeism blocks the way.

Massage in the French Army.

The Minister of War has decreed that hospital orderlies shall in future be taught the art of massage. Classes for

this purpose will be instituted in Paris (Val-de-Grâce Hospital), at Lyons (Hôpital Desgenettes), and at Algiers (Hôpital du Dey). After a six weeks' course the pupils will be distributed amongst the principal military hospitals.

May 12th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Sanitary Precautions.

THE Public Health Department continues to receive grave intelligence from Egypt as to the spread of cholera, and particularly from Alexandria, where it assumes ever more threatening proportions. The persistence of the epidemic during the winter in the Arab quarters strengthened the anticipation that with the advance of the year, the rise in temperature, and the return of the pilgrims after the feast of Ramadan it would develop accordingly. From the close of December, indeed, the Public Health Department had promulgated precautions of a general kind in advance, and more recently—from the close of February—it had arranged with the Posts and Telegraphs Department that their vessels plying between Massowah and Alexandria should till further notice cease to touch at the latter port. The primary object of this prohibition was to prevent the importation of cholera by means of the military transport services. Further regulations are now in force for special medical surveillance of the vessels plying between Alexandria, Naples, Venice, and Genoa—a "servizio di vigilanza," in fact, conducted on board every arrival at the three last-named ports. In addition to these measures there have just been despatched to all the prefects of the maritime provinces of the kingdom special instructions for the rigorous enforcement of all the regulations established by the central sanitary authority in times of anticipated cholera invasion.

A New Method of Embalming the Dead.

One would have thought that the annually increasing adoption of cremation would have minimised the attempts in which Italy has always been prolific to preserve the dead subject, whether by petrifaction, or mummification, or embalming. But such is not the case. In THE LANCET of Sept. 14th, 1895, was described the perfection to which the lately deceased Neapolitan naturalist, Dr. Girolamo Segato brought the first-named method, his triumphs in petrifying the *cadaver humanum* forming one of the chief attractions of the Florentine Museum. Still more recently Signor Carlo Vercelloni of Lecco has invented another and more ingenious process by which the dead subject is subjected to the slow, continuous action of chemical exhalations liberated from the walls of the coffin in which the corpse is hermetically sealed. After a series of experiments on asses, cats, and birds, he found he could by this means absorb the gases of decomposition and humidity in the dead subject and gradually bring about the mummified state—that of perfect dryness of the subject, retaining every feature exactly as in life. Beginning on July 10th, 1895, with the dead body of a male child of six who had died of meningitis he succeeded in effecting the condition of what he terms "mummibalsamation"—the head, trunk, and limbs being admirably preserved in the anatomical relief of nature, the expression stereotyped, the hair blonde as in life, only the complexion of the body being of that yellowish copper colour peculiar to mummies, and the eyes, of course, losing their liquid lustre. These, however, being veiled by the eyelids and eyelashes, detract in no way from the look of repose which characterises the *ensemble*. Belonging to the curiosities of science rather than to its utilities, Signor Vercelloni's method may yet be adopted in cases where it is of special interest to preserve the dead subject "in his habit as he lived." But these, as I have indicated, must be rare, and increasingly so with the advance of cremation, itself a revival of an ancient practice. I may add that Signor Vercelloni's experiment is on view at the Ospedale Maggiore in Milan.

May 11th.

MESSRS. THOMAS DE LA RUE AND CO., Limited, of 110, Bunhill-row, E.C., have sent a donation of 100 guineas to the Royal Chest Hospital, City-road, towards the fund now being raised in connexion with the festival dinner to be held at the Hôtel Métropole on the 26th inst.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

Amended Regulations for the Twelfth International Medical Congress.

ALL who have followed the controversy on the subject of the exclusion of English from the languages officially admitted to the discussions at the International Medical Congress will be glad to hear that the executive committee has yielded to the expressions of opinion which have appeared on this subject in both the English and French medical press. Professor Erismann, the general secretary of the Congress, has sent me a formal letter announcing this fact and also the fact that certain specialities which had originally been included under the general headings of medicine or surgery have been raised to the status of independent sections. The letter announcing these changes is written in French, and as it is headed "avec prière d'insertion" I transcribe it *verbatim*.

"Les explications données, il y a environ deux mois, par le Comité exécutif concernant les Sections 7 et 21 du Règlement du Congrès, qui traitent de la question des sections et des langues, ont pu convaincre nos confrères étrangers et russes qu'en discutant et en rédigeant ces sections, ni la Faculté de Médecine de l'Université de Moscou, ni le Comité exécutif n'ont eu l'intention de créer à l'activité des représentants des diverses spécialités et des diverses nationalités plus de difficultés que n'en comportent (comme il nous semblait) la réussite du prochain Congrès et le développement ultérieur des Congrès Internationaux de Médecine en général. Avant de prendre une décision quelconque, nous avions tenu compte des avis que les nombreux et importants organes de la presse médicale avaient fait entendre après le Congrès de Rome. Nous avions cru pouvoir en conclure que nos confrères de tous pays considèrent la multiplicité des langues et un fractionnement trop considérable du Congrès en sections comme des conditions pouvant nuire à ces assemblées et en affaiblir l'importance. Cet avis se trouvant partagé en principe par la majorité des membres de la Faculté de Médecine, celle-ci avait adopté la rédaction connue des Sections 7 et 21. Toutefois, à l'heure actuelle, il est hors de doute pour nous que beaucoup de nos confrères étrangers, de nos futurs hôtes, ne sont pas satisfaits des prescriptions de ces Sections du Règlement et trouvent qu'elles se concilient mal avec les besoins réels du Congrès et sont dangereuses pour son succès. Pénétrés du désir sincère de faire tout ce qu'il est possible dans l'intérêt du prochain Congrès et plaçant sa réussite au-dessus de toute considération personnelle, même basée sur l'idée de faire entrer dans la pratique des Congrès des principes qui nous semblaient essentiels et utiles, nous reconnaissons volontiers que notre tentative était inopportune. C'est pourquoi nous avons décidé de proposer au Comité d'Organisation du Congrès (dont font partie, entre autres, tous les membres de la Faculté de Médecine de notre Université) de donner au Section 7 une rédaction qui exprimât clairement l'indépendance de certaines spécialités, rattachées jusqu'à un certain point à d'autres branches par l'ancienne rédaction, et de modifier la Section 21 de telle façon que la langue anglaise soit admise dans les travaux des sections à l'égal du français, de l'allemand, et du russe. Le Comité d'Organisation a pleinement accepté notre proposition et dans sa séance du 19 Mars, 1896, a adopté la rédaction modifiée des Sections 7 et 21 telle que nous lui avions soumise.

(Signed) "Le Secrétaire-Général, F. ERISMANN."

It will be remembered that originally the Congress was divided into twelve sections, the names of which appeared in THE LANCET of Feb. 22nd (p. 522). They have now been extended to fifteen, as follows: (1) Anatomy (Anthropology, Normal Anatomy, Embryology, and Normal Histology); (2) Physiology (including Medical Chemistry); (3) General Pathology and Pathological Anatomy; (4A) General Therapeutics (including Hydro-therapeutics, Climato-therapeutics, &c.); (4B) Pharmacology; (4C) Pharmacognosey and Pharmacy; (5) Internal Diseases; (6) Pediatrics; (7) Nervous and Mental Diseases; (8) Dermatology and Venereal Diseases; (9) Surgery; (9A) Odontology; (10) Military Medicine; (11) Ophthalmology; (12A) Otology; (12B) Laryngology and Rhinology; (13) Midwifery and Gynæcology; (14) Hygiene (including Sanitary Statistics, Social Medicine, Epidemiology, Epizootology, and Technical Sanitary Science); and (15) Legal Medicine. The following note is added: "In case of necessity supplementary sections can be organised." It will be observed that there are really in all nineteen sections, but presumably those numbered with letters in addition to numerals—as, for instance, 4A, 4B, and 4C—are intended to rank together as sub-sections of one great section. If this be so, the only specialties which have become independent sections are military medicine, ophthalmology, and the three subjects, otology, laryngology, and rhinology. The paragraph in the regulations relating to languages (Section 21) in its amended form runs as follows: "French is recognised as the official language of the Congress for all international relations. In the general meetings communications will be permitted in other European languages. As regards

communications and discussions in the Sections of the Congress they may take place in French, German, English, and Russian." On this point (the admission of the English language) Professor Erismann has, in a private letter to me, made a request which both he and the executive committee felt some hesitation in making formally and publicly, but which may fittingly find publicity in the columns of THE LANCET. It is to this effect, that as the Russian hosts will whenever possible speak at the Congress in either French or German rather than in their own language, so they would ask their English guests to similarly refrain from speaking in English whenever they are able to speak in French, which is still the official language of the Congress. A ready compliance with this request would tend to diminish some of the evils which have undoubtedly been felt in previous Congresses from the use of a multiplicity of languages.

The Russian Jenner Commemoration.

The Russian National Health Society have found it desirable to postpone the Jenner centenary celebration until October, partly because the extensive preparations which are being made to ensure the success of the celebration could not be completed by May 2nd (14th), and partly on account of the coronation festivities which will begin very shortly. In all probability the day chosen for the Jenner celebration will be Oct. 12th (24th), the anniversary of the first inoculation of small-pox in Russia. It will be remembered that on that date, in 1768, the Empress Catherine was inoculated by Dr. (afterwards Baron) Dimsdale under circumstances already recorded in THE LANCET.[1]

St. Petersburg, April 26th (May 8th).

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Cholera in Alexandria.

DURING the past fortnight there have been sixteen new admissions into cholera hospitals and nine deaths, besides nineteen deaths outside hospitals. Eleven of these deaths occurred in the last twenty-four hours, and included a well-known Dutch gentleman who was chief secretary to the municipality and who is said to have been restricted to milk diet for some weeks. In Tantah there has been one and in Zagazig there have been two fatal cases; also one at Suez and one at Kinghi Osman, a village near Alexandria. The important point is not so much the greater number of cases, but rather their geographical distribution in several quarters of the town, not excluding the neighbourhood of the Mahmoudieh Canal, which is the only water-supply for the city. Cholera has now been present in Alexandria since December, and no one could have worked harder in trying to stamp it out than Dr. Rogers, who has frequently visited the town, and Dr. Bittar, the local sanitary inspector. But outside the Sanitary Department it is difficult to find anyone to praise. There has been an incredible amount of passive opposition on the part of Egyptians and the lowest class of Europeans. No mild cases have yet been reported to the authorities and there has been habitual concealment of the disease throughout. The ignorant local press, both French and Egyptian, has talked since the beginning in slighting terms of the *soi-disant* cholera, while other papers more hostile have published articles accusing the medical practitioners of turning the hospital into a *morgue*. Small wonder that an ambulance waggon was attacked and that the greatest difficulties have been placed in the sanitary officers' way. Crass ignorance is not confined to the poorest natives, for it was gravely announced at a council of Ministers that the medical men were in the habit of throwing a yellow handkerchief over the face of a suspected cholera patient, of rendering him insensible, and of thus conveying him to the hospital. It is impossible to trace the seed from which this malignant absurdity has sprung, but it reminds one of the dark days about ten years ago when the cholera doctors were stoned in Naples! Last week the Governor of Alexandria permitted a great concourse of Nubians there in honour of a dead Sheikh, and the sole excuse for him is that this annual festival is not officially written upon the list of fairs which were all ordered to be suppressed because of the cholera. The authorities are getting used to dropping cases of the disease and are no longer taking stringent precautions. The European Consuls, excepting the French representative, decided at the beginning of the winter to waive their capitulation rights and to allow the municipality to deal with protected subjects in cholera houses in the same way as with natives. I am glad to be able to report that even the French have allowed a Moor, who is legally under their protection, to be dealt with as if he was an Egyptian subject. The Mahmoudieh canal is being kept under constant supervision by watchmen under the control of Sanitary Inspectors Pinching and Garner, and every precaution is being taken to prevent pollution. The Soudan expedition has already caused great economies in all departments and the much-needed £40,000 for improving the water-supply and the public latrines of Cairo has been withdrawn—let us hope only temporarily.

Filtered Water for Alexandria.

Dr. Bitter has just reported to the municipality the result of his experiments during twelve months, for which £4500 were generously voted. He finds that the ordinary sand filter bed as used in Europe is practically of no avail because the canal water during the whole year holds in suspension excessively fine clay which blocks the filter-beds. Both on financial and technical grounds he reports also against blocks of compressed sand and Breyer's asbestos system. All his experiments tend to show that the water of the Mahmoudieh Canal cannot be well filtered unless the clay is first eliminated. Anderson's iron filings system acts well except at high Nile, but he has found, on the whole, that chemical agents such as permanganate of potash or soda act best by precipitating the clay in suspension before filtration through sand. But before advising the construction of filter-beds and two decanting basins he advises the delay of a few months to see whether underground water cannot be found and supplied to the town at about half the cost of installing filter beds. Borings to the depth of 40 metres have already been made and yield hopeful results. The visitors at Mena House, near the Pyramids, have been drinking very pure water for eight years from a boring in the desert, and it is quite possible that every town in Egypt could be supplied in the same way. But this would require a geological survey and the creation of a special boring department, as already proposed by Rogers Pasha.

British Troops at Wady Halfa.

The North Staffordshire Regiment and details now number 930 men in barracks, and the sick-rate is only 5 per cent., and even that is chiefly venereal. It compares very well with the sick-rate of the troops in Cairo (6·7 per cent.) and those in Alexandria (6 per cent.) There is one case of enteric fever, but that was contracted before arrival at Wady Halfa. Surgeon-Major Sloggett and Surgeon-Captains Holmes and Carr are in medical charge, with one quartermaster and twenty-six hospital orderlies. There is a permanent hospital of 100 beds and an officers' hospital for the English officers of both armies. During the last month three officers have been admitted for hepatitis, dysentery, and conjunctivitis. On the whole the health of the troops is and has been excellent. The average temperature of the first half of April has varied from a minimum at night of 58° or 63° to a maximum by day of 101° F. Fortunately it is very dry, the humidity ranging from 21 to 28 per cent. The medical staff in Egypt has been increased by four officers and all leave has been stopped for the whole summer.

Cairo, May 6th.

[1] THE LANCET, Dec. 23rd, 1893, p. 1602.

FOREIGN UNIVERSITY INTELLIGENCE. — *Copenhagen:* Dr. Bjerrum has been appointed Professor of Ophthalmology in succession to Dr. E. Hansen Grut, resigned.—*Heidelberg:* Dr. Passow of Berlin has been appointed to an Extraordinary Professorship of Otology.—*Leipzig:* Dr. Otto Fischer has been appointed Extraordinary Professor of Physiological Physics.—*Philadelphia (Jefferson College):* Dr. Albert P. Brubaker has been appointed Assistant Professor of Hygiene.—*St. Petersburg (Military Medical Academy):* Dr. M. V. Yanovski has been appointed to the Chair of Diagnosis and General Therapeutics, in succession to the late Professor Chudnovski. Drs. Simanovski and Sirotinin have been promoted to Ordinary Professorships of Laryngology and Clinical Medicine respectively.—*Vienna:* Dr. A. Haberda has been recognised as *privat-docent* in Forensic Medicine.

Obituary.

JAMES SEATON REID, M.D., L.R.C.S. EDIN., L.S.A. LOND.

WE regret to announce the death of Dr. Seaton Reid, the father of the profession in Belfast, which took place at his residence in that city on May 3rd, the cause being exhaustion following an attack of pneumonia. For some time previous to his decease Dr. Reid had retired from active practice, but for a period of half a century he was one of the leading medical men in the north of Ireland. Dr. Reid, who at the time of his death was in his eighty-fifth year, was born at Ramelton (county Donegal) on July 11th, 1811, his father being a Presbyterian clergyman in that place; while his uncle, after whom he was named, was Professor of Ecclesiastical and Civil History in Glasgow University and wrote a celebrated book, "The History of the Presbyterian Church in Ireland." Dr. Reid, after studying in the old Belfast College, went to Edinburgh, where in 1832 he obtained the L.R.C.S. Edin. and in the following year graduated M.D. of Edinburgh University. He began practice in Londonderry, where from 1833 until 1836 he was house surgeon in the County Infirmary. On leaving Londonderry for a time he was resident medical officer in the General Penitentiary, Millbank. Soon afterwards he went to Belfast, and when in 1840 the board of health opened a second fever hospital he was appointed physician to it. It was here that he first gained an experience in fevers, a form of disease in which he was for years the accepted authority in the north of Ireland. In 1846 he was appointed physician to the fever hospital in connexion with the union workhouse, a post he held for almost half a century and where he had an unrivalled amount of cases of fever and acute disease from which to acquire a great experience. In 1857, on the death of Dr. Horatio Stewart, he was chosen Professor of Materia Medica in Queen's College, Belfast, an appointment which he held until 1890. On the establishment of the Royal University of Ireland he was selected as one of the first examiners in materia medica, and for several years he continued to act in that capacity. He was also for a time physician to the Belfast General (now Royal) Hospital. He wrote Statistical Reports on Contagious Fevers and on the Classification of Irish Fevers, and on Heart Disease, Addison's Disease, and on aneurysm. These communications appeared principally in the *Dublin Quarterly Journal*. He was an ex-president of the Ulster Medical Society and of the Belfast Clinical and Pathological Society. It will be thus seen what varied posts Dr. Reid held during his lengthened professional life and what opportunities he possessed for gaining a sound experience. No one could meet Dr. Reid without feeling he was a very strong personality. Stoutly built, of a florid complexion, with an abundance of snow-white hair, and most punctilious in the care with which he dressed, Dr. Reid in former times was a very striking figure in Belfast. Many of the present younger generation of medical men had no opportunity of knowing him, but those who did could not fail to be struck with the soundness and correctness of his opinion. He certainly believed largely in Sydenham's doctrine that "Tota ars medicinæ est observatio," but old students who attended his private clinique for members of his college class at the Union Hospital will recall his great carefulness in diagnosis. Somewhat dogmatic in manner, always decided in his opinion and action, Dr. Reid was a true friend, a hospitable entertainer, and a most kindly and honourable member of the medical profession. He was buried in the Belfast Cemetery on May 6th, almost all the medical men in that city being at his funeral.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths are announced of the following eminent foreign medical men:—Dr. Richard Hodges, Assistant Professor of Surgery in Harvard University.—Dr. Botlin, Professor of Clinical Surgery in the Nantes Medical School.—Dr. D. van Haren Noman, Professor of Dermatology in the University of Amsterdam.—Dr. A. Sacré, Prosector and Assistant Surgeon of the Brussels hospitals, at the age of thirty-six. He was the son of Professor Sacré, also of Brussels.—Dr. Roberty, formerly Professor of Physiology in the Marseilles Medical School.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the First Professional Examination in Anatomy and Physiology for the diploma of Fellow:—

Monday, the 11th inst.:

James Andrew Neptune Scott, M.R.C.S. Eng., M.D. & C.M. Glasg., L.R.C.P. Lond., Glasgow University; Arthur Godfrey Ince, M.R.C.S. Eng., L.R.C.P. Lond., Charing-cross Hospital; Charles Ernest Mackenzie Kelly, M.R.C.S. Eng., L.R.C.P. Lond.; David Storer Wylie and Harold Holkar Broome, Owens College, Manchester; and Herbert Sherwell Clogg, University College of South Wales, Cardiff.

Fourteen gentlemen were referred back to their professional studies for six months.

Tuesday, the 12th inst.:

Herbert Wolseley-Lewis, M.R.C.S. Eng., L.R.C.P. Lond., Westminster Hospital; Edward Owen Thurston, M.R.C.S. Eng., L.R.C.P. Lond., St. Thomas's Hospital; Henry Allcroft Duffett, M.R.C.S. Eng., L.R.C.P. Lond.; Clarence William Hewlett, M.R.C.S. Eng., L.R.C.P. Lond., and Lancelot Wilkin, Guy's Hospital; George Stanley Dodgson, Cambridge University and Middlesex Hospital; and Edward Joseph Fox, Owens College, Manchester.

Nine gentlemen were referred back to their professional studies for six months.

CONJOINT EXAMINATIONS IN IRELAND BY THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS IN IRELAND.—The following gentlemen have passed the examination for the diploma in State Medicine:

Frederick Christian Augustus Bushman, L.R.C.P. & S. Irel.
Surgeon-Major Francis Joseph Doyle, F.R.C.S. Irel.

THE UNIVERSITY OF LONDON.—The general meeting of Convocation was held on May 12th at Burlington-gardens, Mr. E. H. Busk, Chairman of Convocation, being in the chair. Mr. H. J. Harris presented the report of the annual committee. It was announced that Mr. T. B. Napier had been elected Fellow in place of the late Sir W. S. Savory, and that the vacancies caused by the deaths of Sir G. Buchanan, Mr. T. H. Huxley, and Sir Julian Goldsmid had been filled by the election of Mr. C. Hubert H. Parry, Mus.D., Professor W. F. R. Weldon, and Mr. Arthur Milman. The vacancy arising from the resignation of Mr. R. H. Hutton will, according to the provisions of the charter, be filled by Convocation in June. Mr. Stanley Boyd moved the reception of the report of the special committee with respect to points in the scheme of the Royal Commission to be presented to the Statutory Commission. The principal recommendation of that report was the appointment of a special committee consisting of the chairman of Convocation, Dr. Allchin, Mr. Bompas, Mr. Stanley Boyd, Dr. Cave, Mr. Cozens-Hardy, Mr. Thiselton Dyer, Dr. Napier, and Dr. S. P. Thompson. The resolution was carried. The following resolutions—(1) "That a special committee of thirteen members, including the Chairman of Convocation, be nominated to prepare for presentation to any Statutory Commission which may be appointed a memorandum of points in the scheme of the Royal Commission in which modification is desirable, and with power to confer with such said Statutory Commission and with the Senate or any committee thereof"; and (2) "That this special committee consist of the following members: the Chairman of Convocation, Dr. Allchin, Dr. Benson, Mr. Bompas, Mr. Stanley Boyd, Dr. Cave, Mr. Cozens-Hardy, Mr. Thiselton Dyer, Dr. Heber Hart, Dr. Napier, Mr. Blake Odgers, Dr. Sansom, Dr. S. P. Thompson"—were also carried. Mr. Stanley Boyd moved: "That the new and enlarged special committee recommended for appointment in the report of the special committee on the memorandum to be presented to such said Statutory Commission should have full powers, if it thinks fit, to prepare amendments to the London University Commission Bill and to have them proposed on behalf of Convocation in either House of Parliament." The resolution was carried.

LITERARY INTELLIGENCE.—Messrs. P. S. King and Son, of King-street, Westminster, announce that they

have in preparation a General Index to Hansard's Parliamentary Debates from the year 1830 to 1891. These volumes are numbered from 1 to 356 of the Third Series. The index will be published in four royal octavo volumes, price £10 10s. Special pains will be taken to make it exhaustive and the cross references as full and complete as possible. The debates will be indexed both under the subject of the debate, motion, or Bill, and under the name of the peer or member taking part in the debate. A suggestion made by Mr. Gladstone has been adopted—viz., that "the really historical declarations of Ministers and leading men" should be specially indicated. The work is being executed by Miss Nancy Bailey, who was for five sessions (1889-91, 1893-94) the indexer of Hansard's Parliamentary Debates. The index will without doubt be indispensable to politicians, historians, and literary men in general.—We understand that the second and final series of "Illustrations of Pathological Anatomy," by Professors Cast and Rumpel, is in the press, and that Dr. Voelcker, pathologist to the Middlesex Hospital, has undertaken to revise and edit the English edition. The first series, it may be remembered, was edited by Dr. Ruffer before his serious illness which necessitated his departure to Egypt. This work is unique, it being the only one extant in which the illustrations are painted from nature immediately at death, and hence are portrayed exact pathological conditions of disease otherwise unattainable. The English publishers are Messrs. Baillière, Tindall, and Cox.

BEQUESTS AND DONATIONS TO HOSPITALS.—The Barnsley and District Hospital Saturday and Sunday Funds Committee has handed £1000 to the governors of the Beckett Hospital.—The committee of the Great Northern Central Hospital, Holloway-road, has received £1100 from a lady to endow a bed in memory of her late husband, and also, from an anonymous donor, £1050, to endow bed No. 7 in the Victoria Mary Ward.—The workmen of Sir W. G. Armstrong and Co., at Elswick, Newcastle, have contributed £464 6s. 1d. to the local medical charities for the quarter ending March 31st last, of which sum £335 1s. 1d. has been apportioned to the Royal Infirmary.—The Court of Common Council, London, has granted 100 guineas to the East London Hospital for Children, Shadwell. In response to the appeal for funds to complete the building, furnishing, and equipment of the new hospital, Birmingham, the committee has recently received the following donations: namely, Anon. (A. A.), £500; Mr. W. B. Gibbins, Ettington, £100; Mr. G. S. Albright, £500; Mr. Richard Cadbury, £1000; Mr. J. W. Wilson, M.P., (second donation), £100; Mr. W. A. Albright, £500; Mr. W. H. Lloyd, Wednesbury, £100; and Mrs. Gibbins, £100.—The secretary of the National Hospital for the Paralysed and Epileptic, Albany Memorial, Queen-square, Bloomsbury, has received a donation for the current year of £105, made towards the support of the Convalescent Branch by the Worshipful Company of Mercers on account of the Earl of Northampton's Charity, and also of £100, being the share allotted to this hospital from the residuary estate of the late Miss E. C. Darling, by the executors.—The committee of the Dental Hospital of London, Leicester-square, has received £105 from Sir Henry Peek, Bart.—The late Mr. William E. Yates of Westwood, Leeds, has bequeathed £200 each, free of legacy duty, to the Leeds Public Dispensary and the Leeds Hospital for Women.—The board of management of the National Hospital for Consumption, Ventnor, Isle of Wight, has received a further grant of 100 guineas from the trustees of the Earl of Northampton's Charity.—The treasurers of the Middlesex Hospital have received a donation of 100 guineas from Her Majesty the Queen.

TYLDESLEY NEW SEWAGE WORKS, MANCHESTER.—The area over which the Tyldesley district council has control is 2489 acres in extent, it has a population of about 14,000, its ratable value is £61,000, and the quantity of sewage to be treated averages about 300 000 gallons daily. Some years ago a farm of 132 acres at Astley, about two miles from Tyldesley, was purchased for £14,000 and used as a sewage farm, the sewage being treated by broad irrigation and land filtration. But in 1894 the Mersey and Irwell Joint Committee deemed the works at Morley's Hall Farm unsatisfactory, the tanks being only capable of dealing with 12,000 gallons a day, while the actual flow was about 300,000 gallons, so it is not surprising that the effluent was condemned. Proceedings were taken by the committee in 1894 and the council was fined £20 and costs. Various methods of sewage treatment were examined, and it was decided eventually to adopt the system of the Magnetite Sewage and Water Purification Company of Manchester, who agreed to construct the whole work for £3250. The sewage is carried on to filter-beds composed of layers of "magnetite," a kind of ironstone, with a top layer of sand. These filter-beds are self-regulating, and the top layer of sand is cleansed by reversing the flow of one filter and allowing it to force itself upwards through the next filter. The floating matter from the top of the sand then runs into a well, from which it is pumped into "detritus tanks." After leaving these tanks the precipitant is added to the sewage by means of a Kierby mixer, worked by a water-wheel turned by the flow of the sewage. The cleansed sewage then passes through a "mixing race" to the inlet channels and to the precipitation tanks, which have been constructed with concrete bottoms and with walls faced with salt-glazed brick. There are eight filter-beds, each 33 feet by 16 feet. The precipitant used is "œlite," principally alumina, iron, and oxide of magnesium. The new arrangement is capable of dealing with some half-million gallons daily, so that it is believed that the needs of the township will be satisfied for some years to come. At the recent formal opening of the works Dr. Duncan, the chairman of the council, presided. Dr. Lowe, chairman of the Sewerage Committee, before declaring the works open, was presented with a handsome key on behalf of the Magnetite Company. He stated that the council had a ten years' indemnity from the company against any proceedings by the Mersey and Irwell Joint Committee on condition that the council made use of the company's precipitant. Mr. Sergeant, the medical officer of health for the county of Lancaster, expressed great interest and said the system was a departure from any he had seen before and he hoped it would prove a success. In appearance the effluent was very much like ordinary drinking water, and it is expected to be still better after the works have been in use some little time.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Cost of the Vaccination Commission.

In the course of answering a question across the floor of the House Mr. Hanbury, Secretary to the Treasury, stated that the total cost of the Royal Commission on Vaccination up to March 31st last was £16,792.

Colliery Explosions.

Steps are in progress for securing that the provisions of the Coal Mines Regulation Bill having special reference to coal-dust and the prevention of explosions in mines shall be passed into law in the course of the present session.

Poor-law Officers' Superannuation Bill.

Proposals have been made for the extension of the provisions of this measure to Ireland, and the Government has intimated that it will offer no opposition to them.

Public Health (Scotland) Bill.

During the Committee stage of this measure in the House of Lords the Earl of Rosslyn raised the question of the position of the chief medical officer in Scottish counties, and moved an amendment requiring that all reports by other medical officers in the county and sanitary inspectors should be transmitted to the County Council through him, and that he should have practical control of all matters of sanitation and public health. He pressed the amendment as necessary to avoid friction in the county administration. The Government, however, would not accept the amendment, preferring that the County Council should be left with a free hand to deal with the matter by means of its by-laws.

Accidents with Petroleum Lamps.

A Select Committee of the House of Commons, presided over by Mr. Mundella, is taking evidence with regard to the sale, storeage, and conveyance of petroleum and accidents arising in the use of petroleum lamps, and in the course of the proceedings on Wednesday, May 13th, Mr. Boverton Redwood, the petroleum expert, handed in for the use of the Committee the report of THE LANCET Commission on the subject of dangerous lamps.

HOUSE OF COMMONS.

TUESDAY, MAY 5TH.

Visiting Fever Patients.

Mr. H. C. Richards asked the President of the Local Government Board whether his attention had been called to an inquest held by Mr. Braxton Hicks on Dec. 31st last at Battersea on the body of James Stevens Romaine, who died at his home from malignant scarlet fever, at which it was proved that previously to his death his brother had been

removed to the Tooting Fever Hospital suffering from the same complaint, and that during the interval both parents had visited the child at the hospital every day, thus going to and from places where infectious disease existed; if he was aware that the jury expressed a strong opinion that the Metropolitan Asylums Board should be asked to revise their rules so as to lessen the risk of infection to the public by disallowing such visits unless under exceptional circumstances; that with regard to visiting patients, by the rules of the Board two visitors are allowed daily to each patient, limited as a rule to a quarter of an hour; that visitors are warned that they run great risk at entering the hospital, but that they are allowed to sit by the bedside; that the only protection to such visitors is a cloak placed over their clothes; and that, on leaving the hospitals, the visitors of necessity return home in public conveyances; and whether, in view of these facts, he would make representations to the managers to revise the rules in accordance with the suggestion of the jury.—Mr. Chaplin replied: I have communicated with the managers of the Metropolitan Asylums District and am informed that there has been no suggestion that the death of the child referred to was due to infection from the hospital, that visits to patients are only allowed under exceptional circumstances—namely, when patients are dangerously ill—and that such visits are limited to the nearest relatives or intimate friends of the patients. With regard to the statement that visitors of necessity return home in public conveyances, it appears that the father and mother in the case in question walked home and did not go into any public conveyance, and the regulations of the managers expressly urge visitors not to enter any omnibus, tramcar, or other public conveyance immediately after leaving the hospital. The managers have stated that the regulations as to the visiting of patients dangerously ill have been found to work smoothly and satisfactorily during the many years they have been in operation and that they see no reason for amending them as was suggested. They added that the enforcement of regulations to prevent parents of patients in the managers' hospitals (most of whom are young children) visiting them when dangerously ill or dying would only have the effect of largely discouraging, even if it did not wholly prevent, many parents from sending their children for isolation to the hospitals and of increasing rather than checking the spread of disease.

THURSDAY, MAY 7TH.

Poor-law Children in Canada.

Mr. Chaplin, in reply to Mr. S. Smith, said that the Canadian Government have provided for an annual inspection of children sent out to Canada by boards of guardians in this country, but not for an inspection of each child each year. It would undoubtedly be very much more satisfactory if the children were more frequently visited, and he would take the necessary steps with a view to communicating with the Dominion Government on the subject.

The Vaccination Question.

Mr. Logan asked the President of the Local Government Board whether his attention had been called to a statement recently made by their clerk to the guardians of the Warminster Union to the effect that he had inquired of the Local Government Board's vaccination inspector what would be the result of the report of the Royal Commission on Vaccination, and that the said inspector informed him that the Act would be so amended that the penalty would be imprisonment after the second offence; and whether such statement was made by the Board's inspector, and, if so, whether with or without authority; and, in the latter case, whether he would give such instructions as should for the future prevent the officials of the Board from spreading unauthorised assertions, which were easily mistaken for official announcements.—Mr Chaplin said he was informed that the inspector who visited the Warminster Union had no recollection of having made a statement to the clerk of the guardians on the subject referred to in the question, and that if in conversation with the clerk the matter came under discussion it would have been impossible for him to have announced what would be the result of the report of the Royal Commission on Vaccination for the reason that he had no knowledge whatever of the views of the Commissioners.

Old Horses for Food.

Mr. Wootton Isaacson asked the Secretary of State for the Home Department whether his attention had been drawn to a case which recently came before Mr. Mead, at the Thames Police-court, brought by the Royal Society for the Prevention of Cruelty to Animals, when two horses were stopped which were being led to the docks for exportation to Rotterdam, both of which were suffering from disease; whether he was aware that diseased horses were daily shipped to Rotterdam for the purpose of being slaughtered and prepared for human food, when they were reshipped to this country in the form of sausages and tinned meats, and that this practice had been carried on to a considerable extent for some time, and whether he would take means to put a stop to a business so dangerous to health.—Sir Matthew White Ridley replied: I have seen reports in the newspapers of the case referred to and have communicated with the learned magistrate before whom it was heard. The two horses were being conveyed to Rotterdam presumably as they were past work for the purpose of being slaughtered for food. There was no evidence, however, that the horse in respect of which the conviction took place was suffering from any disease rendering it unfit for food; it was lame on one leg in consequence of a contracted tendon and a diseased foot. There is no doubt, I believe, that horses in a similar condition are frequently shipped to Rotterdam, but I have no evidence that a trade in diseased horses is carried on or that the food prepared from their carcasses reaches this country nor have I any power to prevent the business in question.

University of London.

Sir John Gorst, in reply to Sir Albert Rollit, announced that a Bill on the subject of the re-organisation of the University of London was being prepared in the Privy Council Office, but it had not yet received the sanction of the Government. When it had received that sanction it would probably be introduced in the House of Lords.

FRIDAY, MAY 8TH.

London Fever Hospital.

Mr. Chaplin, in answer to Mr. P. O'Brien, said he was informed that the new ward pavilion now being erected on the premises of the London Fever Hospital was intended for the reception of fever patients, that it was to take the place of an existing ward pavilion which was much larger, and that the result of the new erection would be to diminish the number of fever patients received on the hospital site by nearly one-half. The committee of the hospital, acting for the governors of the institution, were, he was informed, responsible for the new erection. The hospital in question had been in existence on the same site for some fifty years past. He assumed, as was the case with all new buildings in London, that plans of the new pavilion had been submitted to the authorities having the control of such matters within the metropolis. He had no power of control or action in the matter.

MONDAY, MAY 11TH.

Treatment of Imbecile Children.

Mr. Luttrell asked the President of the Local Government Board whether his attention had been drawn to a return made by the Poor-law Schools Committee to the effect that there were in the Metropolitan Poor-law schools 105 children mentally deficient, 20 liable to fits and 8 otherwise disqualified to take part in school work (exclusive of those in the school infirmaries), and what provision the Local Government Board had made or intended to make for the reception, training, and protection of these children.—Mr. Chaplin replied that the managers of the Metropolitan Asylums District had made provision in their school at Darenth for imbecile children, and it was not improbable that some of the cases referred to might be sent to the school. There were no doubt other children whose mental condition was not such as to require their being sent to the Darenth school and for whom it would be desirable to make other provision. This question was an important one, and it was by no means limited to London, and he was not at present in a position to state what course it would be best to adopt. It must be borne in mind that there was some difference of opinion as to whether feeble-minded children might not be helped by association with children who were not similarly defective, and there were some persons who would be in favour of their being retained in the existing schools, special attention being given to their education and training.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ANDERSON, G. REINHARDT, F.R.C.S. Eng., L.R.C.S. Lond., has been appointed Honorary Medical Officer to the Southport Infirmary, vice the late H. D. McNicoll.

ARROL, CHAS., M.D. Glasg., L.R.C.S. Edin., has been appointed Medical Officer of Health for the Borough of Queensborough.

BERRENDT, M. R. J., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health by the Scunthorpe Urban District Council.

CAINE, N., M.B., C.M. Edin., has been appointed Junior House Surgeon to the Oldham Infirmary.

CLEGG, J. GRAY, M.D., B.S. Lond., F.R.C.S. Eng., &c., has been appointed Senior House Surgeon to the Manchester Royal Eye Hospital.

COOKSON, F., M.B. Lond., M.R.C.S., L.R.C.P. Eng., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

CROSS, W. F., M.R.C.S., L.R.C.P., has been appointed House Surgeon to the Evangelical Protestant Deaconesses' Institution and Training Hospital, South Tottenham.

DAY, E. J., M.R.C.S., has been reappointed Medical Officer of Health for the Borough of Dorchester.

DENING, EDWIN, L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer of Health for the Stowe-on-the-Wold Rural Sanitary District.

DEVANE, THOMAS FRANCIS, L.R.C.P.E., L.R.C.S.E., has been appointed Medical Officer to the Linen and Woollen Drapers' Institute for the Districts of Penge, Anerley, and Sydenham.

DURRANT, THOS. A., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health by the Market Harborough Urban District Council.

EDWARDS, ARNOLD J., M.D. Vict., B.Ch., has been appointed Honorary Surgeon to the Chorlton-upon-Medlock Dispensary, Manchester.

EVERS, CHAS. J., M.D. Durh., M.R.C.S., has been reappointed Medical Officer of Health for the Borough of Faversham and Port Sanitary Authority.

EYTON-JONES, THOMAS, L.S.A., has been appointed Medical Officer for the Ash Sanitary District of the Eastry Union.

FINDLAY, GEO., M.B., C.M. Aberd., has been appointed Medical Officer of Health for the Campden Urban Sanitary District.

GAYLOR, EDWARD, L.R.C.P. Edin., L.F.P.S. Glasg., has been reappointed Medical Officer of Health by the Alfreton Urban District Council.

GOULD, ALFRED PEARCE, M.B. Lond., F.R.C.S., has been appointed Surgeon to the Middlesex Hospital.

GRIFFITH, W. S., M.B. Camb., L.R.C.P. Lond., F.R.C.S., has been appointed Medical Officer of Health by the Milford Haven Urban District Council.

HALL, ALFRED, M.R.C.S., has been reappointed Medical Officer of Health for the Mayfield Rural Sanitary District.

HAMILTON, JOHN, M.D. Durh., L.R.C.P., F.R.C.S. Edin., has been reappointed Medical Officer of Health for the Swadlincote Urban Sanitary District.

HARRIS, S. C., L.F.P.S., L.M. Glasg., has been reappointed Medical Officer of Health for the Ely Urban Sanitary District.

HAYCROFT, C. H., M.R.C.S., has been reappointed Medical Officer of Health for the Sanitary District of Bow, Devon.

HERBERT, B. H., M.R.C.S., has been reappointed Medical Officer of Health by the Uttoxeter Rural District Council.

JELLY, GEORGE AUBREY, L.S.A., has been appointed Junior House Surgeon to the Macclesfield Infirmary.

JEPSON, E., M.D. Durh., M.R.C.S., has been appointed Honorary Physician to the Durham County Hospital.

KEYWORTH, A. F., L.R.C.P. Irel., M.R.C.S., has been reappointed Medical Officer of Health by the Marple Urban Sanitary Authority.

KIRBY, W. EGMONT, M.D. Brux., L.S.A., has been appointed Medical Electrician to the National Hospital for Diseases of the Heart and Paralysis, Soho-square.

LYDDON, RICHARD, M.R.C.S. Eng., L.S.A. Lond., has been appointed Surgeon and Agent to H.M. Coastguards for the Deal District, vice A. Bruce Payne, deceased.

MARSHALL, W. L. W., M.R.C.S., has been appointed Surgeon to the Huddersfield Infirmary.

MARTIN, SIDNEY, M.D., F.R.S., has been appointed Professor of Pathology in University College, London.

MENZIES, J. ACWORTH, M.D., C.M. Edin., has been appointed Junior House Surgeon to the Manchester Royal Eye Hospital.

MORRISON, C. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Superintendent of the County and City Asylum, Hereford, vice T. A. Chapman, retired.

MOYSEY, LEWIS, M.A., B.C. Cantab., has been appointed House Surgeon to the Paddington Green Children's Hospital.

MUDGE, THOS., M.R.C.S., has been appointed Medical Officer of Health for the Hayle Urban Sanitary District, vice J. Mudge, resigned.

NITCH-SMITH, R., M.R.C.S. Eng., L.R.C.P. Lond., has been reappointed Resident House Physician to the Westminster Hospital.

PATON, E. PERCY, M.D., M.S. Lond., F.R.C.S., has been appointed Surgical Registrar to the Westminster Hospital vice P. de Santi.

PURNELL, RICHARD, M.D. St. And., M.R.C.S., has been appointed Medical Officer of Health to the Wells Town Council.

RHODES, JAMES, M.R.C.S., has been appointed Medical Officer of Health for the Glossop Dale Rural Sanitary District.

RICHARDSON, H., L.S.A. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

RYALL E. CANNY, L.R.C.P. Lond., has been appointed Curator of the Westminster Hospital Museum.

SELLERS, A. E., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Thornhill Urban Sanitary District.

SMITHIES, J. J., L.F.P.S. Glasg., L.R.C.P. Edin., has been reappointed Medical Officer of Health to the Bowland Rural District Council.

STEWART, J. H., L.R.C.P., L.R.C.S. Irel., has been appointed Medical Officer of Health for the Borough of Lostwithiel.

SUTTON, JOHN BLAND, F.R.C.S. Eng., has been appointed Surgeon to In-patients at the Chelsea Hospital for Women.

SWAINSON, E. A. C., M.B. Camb., M.R.C.S. Eng., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

THOMPSON, PETER, M.B., Ch.B. Vict., has been appointed Senior Demonstrator in the Department of Anatomy at Owens College, Manchester, vice Arthur Robinson.

TROUP, J. MACDONALD, B.A. Cantab., L.S.A., has been appointed House Physician to the Paddington Green Children's Hospital.

VAWDREY, GEO., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health to the Farnborough Town Council.

WALKER, E. G. A., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health by the Wrotham Urban District Council.

YOUNG, ROBT., M.B., C.M. Aberd., has been appointed Medical Officer of Health for the Rochford Rural Sanitary District, vice G. D. Deeping, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABINGDON UNION.—Medical Officer for the Third District of the Union. The salary, £100 per annum, with certain articles, &c., provided by the Guardians. Applications to the Clerk, Union Offices, Abingdon.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 per annum, with board and residence.

BRISTOL EYE HOSPITAL.—House Surgeon. Salary £60, with board and residence.

BRISTOL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Assistant House Surgeon, for six months. On the satisfactory completion of that term an honorarium of 25 guineas will be granted. Also two Honorary Surgeons for In-patient Department.

CITY OF BIRMINGHAM.—Medical Superintendent for the City Hospital for Infectious Diseases Little Bromwich, Birmingham, unmarried. Salary £200 per annum, rising by £20 per annum to £300 per annum, with apartments, rations, and attendance. Applications to the Town Clerk, Council House, Birmingham.

COUNTY ASYLUM, Dorchester.—Senior Assistant Medical Officer, unmarried. Salary £150, rising to £200.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £60 per annum, with board and lodging.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton. Assistant Resident Medical Officer. Salary £50 per annum, with board and residence.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury.—Resident Medical Superintendent, for one year. Salary £105 a year, with board and residence in the hospital. Also House Surgeon for six months, unmarried. Salary £20, with board and residence in the hospital.

HOSPITAL FOR WOMEN, Soho-square, London.—Assistant House Physician, for three months (non-resident).

LANCASHIRE COUNTY ASYLUM, Rainhill.—Assistant Medical Officer, for the summer months, as locum tenens. Salary, £2 2s. per week, with board and lodgings.

LONDON THROAT HOSPITAL, 204, Great Portland-street, W.—Non-resident House Surgeon, for six months. Salary at the rate of 25 guineas per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART AND PARALYSIS, Soho-square, London, W.—Resident Medical Officer, for six months. Board, residence, laundry, and an honorarium of 10 guineas for that period.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Shoreditch, N.E.—House Physician for six months. Salary at the rate of £60 per annum. Also Junior House Physician for six months. Board, lodging, and washing provided. Applications to the Secretary at the City Office, 27, Clement's-lane, Lombard-street, E.C.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Surgeon to Out-patients. Also Physician to Out-patients.

POPLAR HOSPITAL FOR ACCIDENTS, Blackwall, E.—Assistant Resident House Surgeon. Salary £30 per annum, with board, lodging, and washing.

RANGOON MUNICIPALITY.—Health Officer. Salary Rs. 600 per mensem, rising to Rs.1000 per mensem by annual increments of Rs. 50 per mensem. Applications to Messrs. Ogilvy, Gillanders, and Co., Sun-court, 67, Cornhill, London, E.C.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, London.—Professors and Lecturers.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, London, E.C.—House Physician, for six months. Salary at the rate of £40 per annum, with board, lodging, and laundry.

ST. GEORGE'S AND ST. JAMES'S DISPENSARY, 60, King-street, Regent-street, London, W.—Surgeon.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon, for six months. Board and residence and an honorarium of £10 after six months' satisfactory services.

UNIVERSITY COURT OF ST. ANDREWS.—Lecturers.

VICTORIA CHILDREN'S HOSPITAL, Park-street, Hull.—Resident House Surgeon. Salary £50 per annum, with board and laundry.

WESTON-SUPER-MARE HOSPITAL AND DISPENSARY.—Medical Officer to the Provident Dispensary attached to the Hospital. Salary £80 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

HILL.—On May 2nd, at Jasmine Cottage, Frognal, N.W., the wife of Leonard Hill, M.B. Lond., of a son.

LATTER.—On May 6th, at Earl's-avenue, Folkestone, the wife of Cecil Latter, M.D., B.C. Cantab., of a son.

MUSSEN.—On May 6th, at Welford-road, Leicester, the wife of W. Mussen, L.R.C.P. Eng., of a daughter.

SHADWELL.—On May 11th, at Lynhurst, Walthamstow, the wife of St. Clair B. Shadwell, M.D. St. And., of a daughter.

STEPHENSON.—On May 8th, at Welbeck-street, the wife of Sidney Stephenson, M.B. Edin., of a daughter.

VACHELL.—On May 11th, at Charles-street, Cardiff, the wife of Charles Tanfield Vachell, M.D., of a daughter.

WOORE.—On May 8th, at Strathallan, Upper Norwood, the wife of Frank Woore, late Staff Surgeon, R.N., of a daughter.

MARRIAGES.

BLAKE—HARRIS.—On May 11th, at the City Temple, Victor John Blake, M.B., B.S. Lond., M.R.C.S. Eng., L.R.C.P. Lond., of Elsinore, Ventnor, I. of W., to Amy Katharine Harris, eldest daughter of B. Harris, of Wrexham.

THOMSON—DOUGLAS.—On May 7th, at Algiers, William Thomson, M.D. Edin., to Clara Douglas, daughter of the late W. Douglas, of Ilkley Hall, Yorkshire.

DEATHS.

BALL.—On May 10th, at Croxby House, Hounslow, William Montague Ball, M.B. Aberd., aged 41.

COOPER.—On May 7th, at 105, Gower-street, W.C., in her 31st year, Vernon, *née* Wilkins, formerly of the nursing staff of Charing-cross Hospital, wife of Ernest Frederick Cooper, M.R.C.S., late of 10, Belsize-road, N.W.

MCCREADY.—On May 6th, at the Glebe, Ballynahinch, Ireland, the Rev. Edward McConkey McCready, A.B., M.B. Dubl., aged 67 years.

MOXEY.—On May 8th, at Paris, David Anderson Moxey, M.D., M.R.C.P. Lond., Fulton Lecturer on Elocution, New College, Edinburgh.

STATTER.—On May 9th, at Snapethorpe Hall, near Wakefield, William Statter, J.P., F.R.C.S., in his 90th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.).

TUESDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (20th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.).

THURSDAY (21st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Great Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.) Gt. Northern Central (2.30 P.M.).

SATURDAY (23rd).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (18th).—VICTORIA INSTITUTE (8, Adelphi-terrace, Strand).—4.30 P.M. A Paper on Climate in Egypt in Geological, Prehistoric, and Ancient Historic Times, by H.E. Grant Bey, will be read by Dr. D. Macgregor.

SOCIETY OF ARTS.—8 P.M. Mr. J. Swinburne: Applied Electro-Chemistry. (Cantor Lecture.)

MEDICAL SOCIETY OF LONDON.—Annual Conversazione.—8.30 P.M. Oration:—Dr. W. H. Allchin: The Breaking Strain.

TUESDAY (19th).—PATHOLOGICAL SOCIETY OF LONDON.—Papers:—Mr. Thorburn (Manchester) and Mr. Westmacott (Manchester): On Hypertrophic Pulmonary Osteo-arthropathy.—Dr. Fielder: Osteitis Deformans.—Mr. Edmunds: Thyroid Body in Graves's Disease.—Dr. N. Moore: Growth of Transverse Colon. Card Specimens:—Dr. Tyson (Folkestone): Elongated Appendix with Calculus.—Mr. Shattock: Cultured Variation in Streptococcus Pyogenes Bovis.—Dr. Seligmann: Streptothrix Maduræ.—Mr. J. Smith: Filariæ from Lymph Scrotum.—Dr. Rolleston: (1) Mediastinal Growth from Thymus: (2) Large Cyst in Carcinoma Mammæ.—Dr. Hawkins: (1) Perforation of Gall Bladder in Enterica; (2) Horseshoe Kidney.

SOCIETY OF ARTS.—8 P.M. Mr. G. Simonds: Bronze Casting in Europe.

WEDNESDAY (20th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.)—4.45 P.M. Annual Meeting and Conference. Election of Officers. Introductory Address by President. Paper:—Dr. W. G. Smith (Dublin): Notes upon Chrysorobin and Chrysophanic Acid.—5.45 P.M. Cases.

ROYAL MICROSCOPICAL SOCIETY (20, Hanover-sq., W.).—8 P.M. Meeting.

SOCIETY OF ARTS.—8 P.M. Capt. W. de W. Abney: Orthochromatic Photography.

FRIDAY (22nd).—CLINICAL SOCIETY OF LONDON.—8.30 P.M. Annual General Meeting. Election of Officers for Session 1896-1897. Dr. Clemow: A Case of Typhoid Fever with Hyperpyrexia and Cardiac Dilatation; Venesection; Recovery.—Dr. Rolleston and Mr. Haward: A Case of Chronic Dilatation of the Colon.—Mr. W. G. Spencer: Punctured Wound of Right Ventricle of Heart through Second Left Intercostal Space, severe Primary and three Secondary Hæmorrhages, Healing of the Wound, subsequent Post-mortem Examination after Death from Disease.—Mr. G. R. Baldwin: A Case of Central Sarcoma of the Femur with Early Dissemination.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (18th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. Woakes: Ear Disease during Dentition and the Exanthemata.

WEDNESDAY (20th).—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Dr. Ormerod: Friedreich's Ataxia.

HOSPITAL FOR CONSUMPTION, &c. (Brompton).—4 P.M. Mr. Godlee: Bone and Joint Disease associated with Chest Affections.

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Payne: Herpes and Allied Diseases.

THURSDAY (21st).—LONDON POST-GRADUATE COURSE.—Brit. Inst. of Preventive Medicine, Gt. Russell-st., W.C., 3.30 P.M., Dr. Allan Macfadyen and Mr. A. G. Foulerton: Qualitative Tests for Albumins.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Mr. J. Hutchinson: Clinical Lecture.

VICTORIA HOSPITAL FOR CHILDREN (Tite-street, S.W.).—4 P.M. Dr. M. Murray: Selected Medical Cases.

FRIDAY (22nd).—LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Anthrax and Malignant Œdema.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL.—4 P.M. Dr. Holloway: Anæsthetics, as employed in the practice of the Hospital.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 14th, 1896.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp Shade	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
May 8	30·26	N.E.	49	47	101	61	46	...	Overcast
,, 9	30·16	N.E.	55	50	113	69	48	...	Fine
,, 10	30·17	N.E.	57	53	115	72	47	...	Fine
,, 11	30·29	N.E.	53	49	117	75	47	...	Fine
,, 12	30·39	N.E.	60	53	115	79	50	...	Fine
,, 13	30·35	N.E.	53	50	99	73	50	...	Cloudy
,, 14	30 16	S.W.	56	52	100	70	49	...	Cloudy

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

"THE DOOM OF THE SILKWORM."

MR. THOMAS CHRISTY, of 25, Lime-street, referring to the annotation in THE LANCET of May 9th, encloses us a few observations by a prominent member of the silk trade. He says that silk made from wood as described in the *Times* is no novelty, a factory having existed for some years at Besançon for producing this article, but the French, he adds, have up to the present discovered little use for it, much money having been lost at this factory. Again, he says: "Lyons manufactories have not used the article because it is scarcely any cheaper than raw silk owing to the expense of the solvents used in its production. So far the only market where it has been used is St. Chamoud, where it has been employed in the production of braids. The quantity, however, used in France at the present time is not more than 150 to 200 kilos per week. The great objection to the use of artificial silk is if wetted after being woven it tears like paper, and it cannot be charged or weighted in the dye as raw silk." With this communication we have received a sample of artificial silk. We do not find it to be specially inflammable; indeed, it does not burn with the rapidity and energy of a nitro-compound. This is not surprising when, as we have already stated, the product is denitrated by means of ammonium sulphide before it is finished. While we are not able to confirm the statement that when wet it tears like paper, yet under this condition it is certainly more easily torn than natural silk is. It should be remarked that natural silk requires care, which most people scrupulously take, to preserve it from the deteriorating influences of wet. We may add that although the *Times* devoted considerable space to the description of this process, yet it has formed the theme of many excellent papers contributed to the Society of Chemical Industry by Mr. Cross and Mr. Bevan, the last paper having been read so recently as Monday, the 4th inst.

Dr. J. D. M.—We think that B. would do well to take the fee. It is clear that he ought to be paid for his services. The payment ought to have come from P., but it is not B.'s fault that it will have a different origin.

"WANTED, A SUGGESTION FOR TREATMENT."

To the Editors of THE LANCET.

SIRS,—In answer to "Puzzled" asking for suggestions as to treatment of warts on the face I would recommend him to try five minims of Fowler's solution three times a day and continue for a lengthened period.

I am, Sirs, yours truly,

South Hampstead, N.W., May 9th, 1896. MACADAM GREGOR.

To the Editors of THE LANCET.

SIRS,—Your correspondent may have mistaken sycosis for verrucæ. When I was house surgeon at the London Lock Hospital Mr. Berkeley Hill's favourite remedy was exsiccated (caustic) sulphate of zinc. I should advise sulphur sublimatum, one of the best and safest dusting powders in the case in question, to be applied as a strong ointment with lanoline at night, and cleansed off in the morning with crumb of bread poultice for an hour or more, then dusted with sulphur rice starch, 1 in 50, or SO_2 (B.P.) to commence with, and applied, diluted, three or four times a day.

I am, Sirs, yours truly,

Fleetwood, May 12th, 1896. W. G. TILEY, M.R.C.S. Eng.

Omega.—We do not answer such questions.

"AN INSURANCE COMPANY AND A MEDICAL REFEREE."

WE have received from the manager of the insurance company to which we alluded under this heading in THE LANCET of May 2nd a communication commenting upon our account of the matter. The manager asserts that Dr. Bontor was offered 7*s.* 6*d.* in the beginning and not 5*s.* and that that gentleman had an opportunity of declining to make the examination. "The scale of fees," says the manager, "has been determined upon by leading members of the medical profession; and from time immemorial life offices have paid one fee for small policies and one for large."

MR. LEET'S PAMPHLET ON DAIRY MILK: ITS DANGERS AND THE REMEDIES, WITH THE OPINIONS OF TWENTY EMINENT BRITISH PHYSICIANS UPON STERILISED MILK FOR INFANT FEEDING.

To the Editors of THE LANCET.

SIRS,—Sir Dyce Duckworth, physician to St. Bartholomew's Hospital, London, writes to me thus on the 2nd inst.: "I must request you to write to THE LANCET and the *British Medical Journal* to the effect that you have unwarrantably published some remarks of mine in your pamphlet without my permission, remarks taken from a private letter in reply to a simple inquiry on your part."

The following cutting from page 23 contains the passage alluded to by Sir Dyce Duckworth:

"APPENDIX.

"OPINIONS OF TWENTY EMINENT BRITISH PHYSICIANS UPON THE SUBJECT OF STERILISED MILK FOR INFANTS.

"1.—Sir Dyce Duckworth, Physician to St. Bartholomew's, London:—'There is an excellent form of Milk Steriliser, known as Professor Soxhlet's. There are now one or two Milk Companies here which send out Sterilised Milk daily at 5*d.* per quart. The working of the steriliser is very simple, and the advantages very great. If you do not know it I would advise you to read Sir W. Priestley's address on the subject, *British Medical Journal*, December 7th, 1895.'"

Then follow the opinions of eighteen other physicians. From the last page of the pamphlet the following cutting will explain the reason why it was published.

"N.B.—These valuable 'Opinions,' chiefly brief replies on the post-cards enclosed to each of these eminent medical men, politely requesting the name of the Milk Steriliser they recommend, are now published upon the grounds of the 'present distress,' when the purveyor of 'Dairy Milk' can defy the laws and poison hundreds of British children by the dirty, diseased, and watered compound he dares to call 'Fresh New Milk.' Is the family physician to look on at all this and take fees for prescribing physic that does not, cannot, kill the poisonous Milk?"

The question of professional ethics was inadvertently forgotten in the anxiety to make known to "nurses and mothers" (to whom the pamphlet has been dedicated) some hitherto unpublished advantages in the treatment of sick children, and of adults with gastric troubles, from the use of a cooler for hot sterilised milk—a simple tin pan apparatus, furnished with inlet and outlet pipes for running water from the house main tap, in which can be immersed any milk steriliser, and in some five minutes the milk temperature be reduced over 5C°, the burnt taste of cooked milk avoided, no scum coagulation on its surface, and post-scalding microbic contamination held in check more simply and inexpensively than I have otherwise seen described. Having given daily personal attention to this subject in our private medical home for twelve months I trust my explanation and apology will be accepted by Sir Dyce Duckworth and by any of the other eighteen physicians should they object to their opinions having been published in the pamphlet.

I am, Sirs, yours truly,

CHARLES H. LEET, F.R.C.S. Eng.,

Waterloo, Liverpool, May 7th, 1896. Late Surgeon-Major A.M.S.

Etiquette is referred to an answer to "M.R.C.S." Attendance upon such a club in no way contravenes the dignity of the profession.

"A NOVEL METHOD OF INTRODUCING A NEWLY-QUALIFIED MAN."

To the Editors of THE LANCET.

SIRS,—Thank you for sending me THE LANCET containing the letter of "Vindicator." The plate was an ordinary brass plate with name only; on another small plate—not wood and about the size of a sheet of foolscap—the hours of attendance, &c., were given. A copy is appended for your perusal and judgment. Owing to correspondence in connexion with an appointment (correspondence enclosed) it was known to all the inhabitants that J—— was up for his final examination at Edinburgh on April 13th, and "Vindicator," as a medical man, would know that the examinations terminated on Friday, April 17th. Reports were disseminated on the same Friday night and the following morning that J—— had failed to pass the examination, and were so industriously circulated that within twenty-four hours every one in the place was certain they were true. After the false gossip had full swing the truth of J——'s success became known. The villagers, after their own fashion, employed the crier to strangle the lie as soon after its birth as possible; but of all this poor J—— at Edinburgh and his father eight miles off were as innocent as the Editors of THE LANCET, nor did they have any intimation of what took place until the Tuesday following, when three days had elapsed. It seems too absurd to have to repudiate or disavow such ridiculous proceedings, in which J—— and those responsible for him took no act or part, and were guilty of no fault either of commission or omission, but if such be deemed necessary it is hereby emphatically repudiated.

I am, Sirs, yours faithfully,

May 4th, 1896. VERACITY.

*** Neither Dr. J—— nor his friends can be held responsible for the spontaneous action of the villagers, and we are glad to print this satisfactory explanation. The legend on the brass plate is not offensive. THE LANCET was not sent from this office to "Veracity", the highly contentious conclusion to whose letter has no bearing on the case and has therefore been omitted.—ED. L.

M.R.C.S.—It is preferable that a medical man's business should not be interfered with by a lay committee; but our correspondent's appointment otherwise seems unobjectionable. The fact that he examines all new candidates as to their physical and pecuniary conditions before admitting them to the benefits of the association is a very important one, for he is able to guard his services from gross abuse.

THE WRIGHT DEFENCE FUND.

To the Editors of THE LANCET.

SIRS,—The following additional subscriptions have been promised or received for the above fund since your issue of May 9th:—

Mr. J. B. Stuart, J.P., F.R.C.S. Ed. (Wigan) ...	1	1	0	Mr. J. G. Dunn (Preston)	10	0	
Mr. Thomas Jones, F.R.C.S. Eng. (Manchester)	3	3	0	Dr. G. B. Barron, J.P., (Southport)	10	6	
Mr. T. Brayton (Hindley)	1	1	0	Dr. Benson (Wigan), additional	10	6	
Mr. Bentham (Abram) ...	1	1	0	Mr. Barnes (Bolton)	5	0	
				Previous List	30	17	0

As £150 is required the committee will be pleased to receive further subscriptions, but are desirous to close the list by June 1st. Thanking you for your previous insertion of the appeal

I am, Sirs, yours truly,

Wigan, May 13th, 1896. WM. BERRY.

Dr. John McClymont is thanked for his communication. There are practical reasons why it would not be politic to print this at the present moment, but later we may notice the point.

One of the Profession.—The cases are not of sufficient frequency, we are thankful to say, to make any drastic methods of remedy widely called for.

An Interested Layman should consult his regular medical attendant.

During the week marked copies of the following newspapers have been received:—*Craven Herald, Hereford Times, Somerset County Herald, Hampshire Telegraph, Cheltenham Mercury, North British Agriculturist, Cornishman, Standard, Elgin Courant, Rochdale Observer, Wakefield Herald, Midland Free Press, Glasgow Herald, South Wales Daily News, Northern Whig, Leicester Post, Yorkshire Herald, Manchester Guardian, Derby Express, Birmingham Post, Newcastle Leader, Harrogate Advertiser, Worcestershire Chronicle, Preston Herald, Retford News, Eastern Daily News, Liverpool Daily Post, Carlisle Journal, Scotsman, Dover Express, Jackson's Oxford Journal, Leeds Mercury, Sussex Daily News, Blackpool Gazette, East Essex Times, Cambridge Express, Yorkshire Post, Royal Cornwall Gazette, Sheffield Independent, Bristol Mercury, Architect, Times of India, Local Government Chronicle, Builder, Pioneer Mail, Weekly Free Press and Aberdeen Herald, Christian World, Lincolnshire Echo, Reading Mercury, Citizen, Herefordshire Mercury, Mining Journal, City Press, Rossendale Gazette, Kilrush Herald, Leitrim Observer, West Middlesex Standard, Guy's Hospital Gazette, Local Government Journal, Gloucestershire Chronicle, Surrey Advertiser, Montreal Daily Star, Isle of Ely Advertiser, Ulverston Advertiser, Shrewsbury Chronicle, Times (Philadelphia), North Eastern Daily Gazette, Clevedon Mercury, Pall Mall Gazette, Devon and Exeter Gazette, &c., &c.*

Communications, Letters, &c., have been received from—

A.—Dr. F. J. Allen, Birmingham; Dr. W. H. Allchin, Lond; Mr. W. Armstrong, Egremont; Mr. C. K. Austin, Paris; Mr. F. C. Allsop, Lond.; Mr. F. Algar, Lond, Messrs. Arnold and Sons, Lond.

B.—Dr. T. Lauder Brunton, Lond; Mr. W. H. Brown, Leeds; Mr. E. A. Barton, Lond.; Mr. A. E. Bull, Lond.; Mr. R. W. Brimacombe, Kingswood; Monsieur O. Berthier, Paris; Mrs. L. A. Brooks Grays; Messrs. Burgoyne, Burbidges and Co., Lond., Bristol Hosp. for Sick Children and Women, Sec. of; Bridgwater Infirmary, Hon. Sec. of; Birkenhead Medical Society, Hon. Sec. of; Birmingham City, Town Clerk of.

C.—Dr. F. W. Cock, Lond.; Dr. C. H. Cattle, Nottingham; Mr. J. McClymont, Leyton; Mr. E. A. Clarke, Dukinfield; Mr. E. Clarke, Lond.; Messrs. W. H. and L. Collingridge, Lond.; Messrs. Cassell and Co., Lond.; Messrs. Curtis and Co., Lond.; County Council of Durham, Medical Officer of Health of; Cortland Wagon Co., Lond.

D.—Dr. Dearden, Church; Mr. G. Demmer, Davos Platz; Mr. S. C. Dibdin, Lond.; Mr. T. Dixon, Lond.; Messrs. Duncan, Flockhart and Co., Edin.; Dorset County Asylum, Dorchester, Sec. of; Dermatological Society of Gt. Britain and Ireland, Lond., Sec. of; D. M., Leeds.

E.—Dr. N. F. Edwards, Swansea; Mr. M. W. Edgley, Lond.

F.—Dr. J. Forbes, Bothwell; Mrs. Fryer, Lond; Messrs. J. S. Fry and Sons, Bristol.

G.—Dr. W. R. Gowers, Lond; Mr. F. S. Gotla, Lond.; Guy's Hosp., Lond., Sec. of; General Medical Council, Registrar of.

H.—Dr. B. O. Hopwood, Lond.; Dr. H. E. Hoffmeister, W. Cowes; Dr. S. Hyde, Buxton; Mr. J. Heywood, Manchester; Mr. A. Heilbert, Stuttgart; Mr. G. L. Hamilton, Brighton; Mr. C. Hensage, Eastbourne; Messrs. P. Harris and Co., Birmingham; Messrs. Haasenstein and Vogler, Köln.

J.—Mr. O. M. Jones, Victoria, British Columbia; Mr. R. F. Jowers, Brighton; Mr. W. E. W. James, Lond.

K.—Mr. B. Kühn, Lond.; Messrs. G. Kelly and Co., Lond.; Messrs. Kirk and Kirk, Lond; Messrs. P. S. King and Son, Lond.

L.—Mr. H. G. Loosley, Abingdon; Messrs Lee and Martin, Birmingham; Lancashire County Asylum, Rainhill, Clerk of, London Vegetarian Society, Sec. of; "Lattice" Elastic Stocking Co., Lond.; Liquor Carnis Co., Aston Clinton; L., Lond.

M.—Dr. D. MacEwan, Dundee; Prof. Middendorp, Groningen; Mr. R. D. McGregor, Glasg.; Mr. R. Mosse, Lond.; Mr. J. D. Mortimer, Lond.; Nurse Muirhead, Lond.; Mr. G. Milner, Lond; Messrs. Maple and Co., Lond; Male Nurses' Temperance Co-operation, Lond., Sec. of, Maltine Mfg. Co., Lond.

N.—National Hosp. for Diseases of the Heart and Paralysis, Lond, Sec. of; Nottingham Union, Hon. Sec. of.

O.—Surg.-Major P. O'Sullivan, Meean Meer, India; Mrs. Oates, Castle Hedingham.

P.—Dr. G. N. Pitt, Lond.; Mr. Y. J. Pentland, Edin.; Philosophical Society of Gt. Britain, Lond.; Sec. of; Paul Paquin Laboratories, St. Louis.

R.—Dr. F. Renaud, Manchester; Mr. A. Robertson, Oban; Mr. R. Rendle, Plymouth; Mr. R. B. Ross, Lond.; Señores Romo y Füssel, Madrid; Mrs. Robertson, Eastbourne; Messrs. Robertson and Scott, Edin.; Royal Meteorological Society, Lond., Assist. Sec. of; Royal Hosp. for Diseases of the Chest, Lond., Sec. of; The Red Cross Germicide Co., Lond., Sec. of; Royal Military Tournament, Lond., Hon. Sec. of.

S.—Dr. A. T. Schofield, Lond.; Dr. J. B. Spence, Burntwood; Dr. H. Snow, Lond.; Dr. P. C. Smith, Lond.; Surg.-Gen. G. M. Sternberg, Washington; Mr. H. W. Scriven, Lond.; Mr. J. F. Spriggs, Lond.; Mr. E. Stephens, Ilminster; Messrs. Schweitzer and Co., Lond; Messrs. Stubbs, Cork; Messrs. Smith, Elder, and Co., Lond; Messrs. G. Street and Co., Lond; St. Mary's Children's Hosp., Lond., Sec. of; Stockport Infirmary, Sec. of.; Surrey County Council, Medical Officer of Health of; Strophanthus, Lond.

T.—Dr. C. B. Taylor, Nottingham; Mr. J. R. Tunmer, Lond. Messrs. Turner Bros., Bath.

W.—Dr. W. A. Wills, Lond.; Mr. A. H. Ward, Lond.; Mr. W. F. Webster, Studley; Herr G. Weigand, Homburg; Miss Woodward, Folkestone; Messrs. Wilcox and Co., Lond.; Messrs. Williams and Norgate, Lond.

Y.—Mr. W. H. Yeld, Lond.

Z.—Zeta, Lond.

Letters, each with enclosure, are also acknowledged from—

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